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INSIDE DOPE

by GEORGE F. TAUBENECK

No Recession for Us
Off to the Races Again

No Recession for Us

After several footsore, backsore, leg-muscle-aching days of wearisome tramping around the National Home Furnishings Show in Chicago this month, we've come to one heartening conclusion, viz.:

No recession is in prospect for home appliances this year.

"Soft goods," like shirts, sox, and women's wear, may take a licking. Food prices are sure to turn downward. Many other bread-and-butter lines of consumers' goods may run into stiffening buyer resistance.

But refrigerators, ranges, and washers? Huh-uh. The end of the buyers' market in these items still lies beyond an invisible horizon.

Manufacturers of home appliances entered this gigantic shindig with their fingers crossed. They feared new competition. They were skittish about higher prices. And they were worried lest prospective customers might feel like cancelling orders because the psychology of "the times" pointed toward cautionary measures.

Nothing of the kind materialized. If anything, the pressure for deliveries of new home appliances seems to have mounted, rather than diminished, on the part of dealers who flocked to this exposition from every corner of the United States and many foreign areas of the globe.

Off to the Races Again

It would have done your heart good to watch such veteran Specialty Selling Exponents as Charlie Lawson and Dan Packard of Kelvinator; Jud Sayre and Walter Daily of Bendix; "Mike" Sweeny and "Curly" Driscoll of General Electric; "Red" Clary and Charlie MacMahon of Norge; Jim Newcomb, George Meilinger, Roger Bolin, "Sam" Vining and Gil Baird of Westinghouse; and many, many other old-timers in the appliance selling business "go to town" in personal demonstrations of their products.

"Old Home Week," it was. The boys were in their element once again. And did they love it!

After years of fussing around with priorities, OPA interpretations, materials expediting, and other such unglamorous diversions of their energies, the Greatest Specialty Salesmen of Our Age were again playing their own game, on their own grounds, and before their own home folk.

Our nominations for the happiest—and busiest—product demonstrators at the Furniture Mart in Chicago: Charlie Lawson (Kelvinator), Jim Newcomb (Westinghouse), "Mike" Sweeny (General Electric), and Walter Daily (Bendix). They knocked themselves out to show what their factories had produced—but man! did they love it! They were in their element again!

Refrigeration Supply Co.
Dallas 2, Tex.

Editor:

You get some pretty good ones in your "Inside Dope," but we believe the enclosed article by Lynn W. Landrum, of the *Dallas Morning News*, is a masterpiece, and thought you would like to read it. Incidentally, he is one of our good Texas writers and a resident of Dallas, and has recently returned from the Armed Services.

Thought you might be able to make even a better speech at the Convention in Cleveland than you did two years ago in Chicago, after reading this article.

U. C. BOYLES

And now we quote Mr. Landrum:

"The new deal is dead. Most of what is wrong with the United

(Concluded on Page 10, Column 3)

Estimates 1946 Refrigerator Sales Hit 2,100,000

By George Hanning

NEW YORK CITY—An estimated 2,100,000 household electric refrigerators were sold in 1946 at a retail value of $434,500,000, according to figures shown at the National Retail Dry Goods Association convention here by James B. Ogden, manager of the electrical appliance department at J. L. Hudson Co., Detroit.

These figures were compared to 3,500,000 units sold during 1941 at an average price of $155 and with a retail value of $542,500,000.

Of this 1941 business, department stores accounted for 14% of the sales, Mr. Ogden told the assembled department store executives.

To illustrate the role that department stores have played in merchandising household refrigerators, he exhibited the following chart:

REFRIGERATOR SALES IN PERCENTAGE BY TYPES OF OUTLET

	1930	1936	1939	1941
Department stores	18	12	14	
Furniture stores	9	18	21	
Mail order chains	15	23	15	
Tire chains	..	..	..	5
Mfrs. and Dist. selling at retail	50	6	5	3
Specialty appliance, hardware, radio stores, miscellaneous	30	36	31	34
Utilities	20	16	11	8
Total percentage	100	100	100	100

What can department stores do to get more of the refrigerator and appliance business?

They must deserve to get it, Mr. Ogden replied, by fulfilling at least the following requirements:

1. Interested and sympathetic management.
2. A well selected and properly trained buying staff.
3. Build towards proper relationship with manufacturers and sup-

(Concluded on Page 4, Column 3)

Rema Sets Policy of Refrigeration Show Every Other Year

PITTSBURGH—A permanent, far-reaching policy of national refrigeration and air conditioning expositions, centering around the holding of one all-industry show every two years beginning in January, 1948, has been announced by the Refrigeration Equipment Manufacturers Association.

The program was voted unanimously by directors of the association following an analysis of the results of the Fourth All-Industry Refrigeration and Air Conditioning Exposition in Cleveland last fall which was three times larger in size and attendance than any other comparable event in the industry's history.

Inaugurating the new policy will be the Fifth All-Industry Exposition, which will be held in the Cleveland Public Auditorium, Jan. 26, 27, 28, and 29, 1948, under the sole sponsorship of REMA. Thereafter, REMA will sponsor exhibitions every two years, an event already having been scheduled for January, 1950.

(Concluded on Page 4, Column 5)

Advanced Aircraft Head Killed In Plant Mishap

LONG ISLAND CITY, N. Y.—Fred Germer, head of Advanced Aircraft, Inc., died Jan. 17 from injuries received in an unusual plant accident, a piece of heavy machinery having fallen upon him.

Advanced Aircraft, Inc., entered the refrigeration field last year, manufacturing compressors at its Cornwell Heights, Pa. plant.

REWA States View on Oberc 'Fixture' Plan

Move Not Representative Of General Membership In Group, Says Glou

SYRACUSE, N. Y.—The plan outlined by J. M. Oberc, Detroit refrigeration parts and equipment wholesaler, to sell "packaged" or unitary commercial refrigeration equipment through refrigeration servicemen, in no way represents the policies or thinking of the general membership of the Refrigeration Equipment Wholesalers Association.

This was made clear in a communication to AIR CONDITIONING & REFRIGERATION NEWS from Theodore I. Glou, president of R.E.W.A.

Mr. Oberc discussed his plan before the Food Equipment Dealers Association of Detroit (at their invitation) and his remarks were reported in an article under the headline "Parts Wholesaler's Plan to Sell Fixtures Through Servicemen Arouses Dealers." What he said in substance was that many servicemen were interested in selling such packaged equipment, he would sell it to them wholesale and provide showroom space in his headquarters for such equipment, and that he believed this move was justified by the changed nature of the commercial refrigeration business.

President Glou of R.E.W.A. said that since publication of the article he and other officers and directors of the Association had received many communications from members to the effect that there was some inference in the field that Mr. Oberc's plan represented the plans of refrigeration parts and equipment wholesalers generally, which is not true, they pointed out.

This inference, if not corrected, it was stated, can bring about unfair criticism of the companies who are members of the Association.

"I would like to call to your attention the fact that no individual parts and equipment wholesaler is permitted to speak for the Association, and that only official releases from our executive secretary's office bear the sanction of our group," said Mr. Glou.

"Our by-laws and out statement of policy clearly outline qualifications for membership in our association and any member violating the by-laws will be asked to tender his resignation. It is not the intention of the Association to tell wholesalers who or what they should sell and if some members feel from an economic standpoint that it is necessary for them to deviate from the functions of the wholesaler as defined in our by-laws this is their privilege."

Willis Now Kelvinator Range Sales Manager

DETROIT—H. A. Willis has been appointed Kelvinator range sales manager, it was announced last week by Charles T. Lawson, vice president of Nash-Kelvinator Corp. in charge of Kelvinator sales.

Mr. Willis came to Kelvinator from the Kellogg Co., with whom he held a number of advertising and promotional positions. In addition to broad experience in advertising, his background includes sales promotion and general merchandising experience. He was active in the field, becoming familiar with branch, wholesale, and retail sales operations.

During the last year, Mr. Willis has been in charge of Kelvinator range and water heater advertising and sales promotion activities. His new responsibilities also will include management of water heater sales, Mr. Lawson said.

Sanitary Lops $50 Off Price of Its 12½ Ft. Freezer

FOND DU LAC, Wis—A $50 reduction in the price of its farm freezer was announced Jan. 22 by Sanitary Refrigerator Co. here.

The cut, which lops 10% off the price of the company's $500 Quicfrez farm locker plant, is the first to be publicly announced in the industry since postwar production began.

Prewar price of the 12.5-cu. ft. freezer was $395. There have been two price raises since the war. The new reduction brings the price back to within about 10% of the prewar level.

In a statement announcing the reduction, B. K. Miller, president of Sanitary, termed the move "a pledge of our faith in the future demand for quick freeze equipment."

"We believe that the pent-up demand for quick freeze equipment which was so hard to get during the war, can be turned into a steady, long-term market by a sensible price policy," Mr. Miller said. "Somebody has to make the first move.

"Lower prices bring a dependable volume of sales and this in turn brings lower costs. Lower costs will, perhaps someday, mean still lower prices. That is the cycle in an expanding industry, which the freezer industry certainly is."

Mr. Miller said his optimism is based "on the growing number of uses for food freezers."

Sanitary was one of the early firms to develop farm freezer plants, having put its Quicfrez model on the market in 1939.

"The Quicfrez is a high quality, heavily insulated freezer containing four compartments, three for already-frozen foods and one in which to freeze fresh foods," the company said.

Gov't Shows 52,000 Freezers Shipped First Half of 1946

WASHINGTON, D. C.—Factory shipments of home and farm freezers by manufacturers reporting to the Bureau of Census of the U. S. Department of Commerce totaled approximately 52,000 units in the first half of 1946, according to a report just issued by the Bureau.

These units were valued at more than $12 million. During the first quarter, $5.3 million worth of freezers were shipped by the companies reporting, the second quarter showed an increase of 27%, to $6.7 million.

Number of self-contained units shipped far exceeded the number of remote units; 95% of the freezers

Tables giving the breakdown of these reported home freezer sales by quarters and by sizes are published on the back page of this issue.

shipped in each quarter were self-contained and only 5% remote. Heaviest concentration of shipments of the self-contained type by those producers reporting was in the 12.1 to 15.9-cu. ft. size; these amounted to 26% of the total shipped during each quarter.

The Bureau reported that while reports were received from 156 companies on Form M52A (Part IV, Farm and Home Freezers) only 93 companies were active in this field during the first quarter of 1946 and 95 during the second quarter.

The report by the Bureau of Census is the first in a series of separate quarter reports covering the operations of the home and farm freezer industry. Heretofore, data on home and farm freezers have been included in Facts for Industry Series M52A "Air Conditioning and Commercial Refrigeration Equipment."

Supply-Demand On Appliances Seen Balancing

Only Refrigerators May Lag In 1947, Predict Speakers at NRDGA

By George Hanning

NEW YORK CITY—Almost all major electrical appliances with the possible exception of refrigerators, should reach a balance of supply and demand during 1947, barring prolonged materials shortages and production stoppages, speakers at the home appliance sessions of the National Retail Dry Goods Association convention here predicted.

John M. Otter, sales manager of Philco's radio and television division, declared that such a balance in refrigerators would not come in 1947. Dan Packard, Kelvinator sales manager, however, believed that supply and demand would meet in late summer or early fall.

W. F. Linville, general sales manager of Bendix Home Appliances, Inc., said that washing machines would enter a buyers' market in mid summer, while ironers would meet that situation in April. He excluded the west coast from that prediction, however, stating that the unprecedented demand in that area will keep these items in short supply until spring of '48.

The supply-demand balance for electric ranges was predicted for sometime in 1947.

In answer to a question on home freezers, Mr. Packard declared that they cannot be sold by using 1947 refrigerator sales methods. Home freezers must be sold with the same methods that were used on refrigerators back in 1927, he said. The home freezer as such must be sold first before different brands can be sold competitively, he contended.

Questions from the audience at the major appliance sessions brought the following from the speakers:

If a store, as a matter of policy, wants satisfied customers, then the cost of "pampering" service performed on the customer's appliances should be borne by the store.

Department stores should spend 1 or 2% of sales to advertise.

The number of times the appliance inventory should turn over during a year is difficult to determine at present, but before the war, the usual number was estimated to be about 12.

What compensation is to be paid appliance salesmen depends upon what the salesman needs to live on, plus what it takes to hold him at his job, plus how hard it is to sell the product.

Left unanswered were:

What is to be done with refrigerators that are taken in on trade-ins and which cannot be resold as used boxes?

Why do some refrigerator manufacturers change their models when the backlog of orders on the old models cannot be filled?

Representatives of Kelvinator, Philco, and General Electric who appeared on the "board of experts" pleaded "not guilty" for their companies in reply to the last question.

Beer by the Slot May Be on 'Tap'

CHICAGO—One of the nation's leading brewers is said to have discussed the merchandising possibilities of its bottled beer in automatic refrigerated vending equipment at its recent annual sales meeting.

Equipment under consideration, it is said, is a vendor which would offer 10 different selections of beverages in various sized bottles or cans.

WAA to Sell Surplus at Bids Only After Fixed Price Offer

WASHINGTON, D. C.—Conditions under which fixed price and competitive bid sales of surplus property will be made were outlined last week by the War Assets Administration.

In its second operational program for disposal of producer and consumer goods during February, March, April, and May, WAA told its 33 regional offices that: "Generally, the fixed price method of sale is to be employed whenever it is both possible and practical to establish the price."

If property remains unsold after a "proper" fixed price sale, the residue will be offered promptly under competitive bidding.

WAA defined a "proper" fixed price offering as one made: in the right market; to the right buyers; at reasonable and fair prices; through the right type of sale; in appropriate lots; over a reasonable period of time and through wide public notice.

In addition, priority claimants, if concerned, must have a fair opportunity to satisfy their needs, and wholesalers, distributors, small users, and small retailers must be given a fair chance to buy as well as other eligible buyers.

Regional directors, who are responsible for this type of sale, were advised to re-offer surplus when any of the conditions for proper sale are not met.

Competitive bid offerings should be governed by three considerations, WAA said. They are:

"Is it likely that speculators or brokers not normally engaged in the buying and selling of this property will be able to profiteer at the expense of other buyers who may wish to compete for the property?

"Is collusion among bidders likely to result?

"Is the probable return to the government likely to fall below the known maximum fair value of the property?"

When it is impossible or impractical to establish a price, property is to be offered in the first instance under a competitive bid method of sale, WAA said.

Machine tools will be sold under a fixed price in all cases.

Levine Named Managing Engineer of G-E Heat Div.

BLOOMFIELD, N. J.—S. J. Levine, who has been associated with automatic heating development at General Electric's air conditioning department in Bloomfield, N. J., since 1934, has been named managing engineer of that organization's automatic heating equipment division.

He will have responsibility for both engineering and manufacture of all automatic heating equipment.

Mr. Levine joined the General Electric Co. in 1928, and has at various times been assigned to the Research Laboratory in Schenectady, N. Y., the River Works in West Lynn, Mass., and to the Motor Division at Pittsfield, Mass.

Supply Snags Cause Some Appliance Producers to Postpone New Products

NEW YORK CITY—Westinghouse Electric Corp., stated in a story in the Jan. 13 issue of the *Wall Street Journal*, has shelved its plans to introduce an automatic dishwashing machine and "doesn't know when" it will start producing its upright home freezer model.

(Samples of the home freezer were exhibited during the recent Furniture Marts in Chicago, but Westinghouse representatives present were chary about venturing a guess as to exactly when the home freezers might be available.)

J. H. Ashbaugh, Westinghouse vice president in charge of the appliance division, was quoted by the paper as saying:

"We can't get enough material now to bring our present facilities up to full production, let alone trying to line up materials for new items."

The *Wall Street Journal* story also declared that a "leading appliance maker who last year designed a new refrigerator aimed at the 1947 market, has postponed its introduction until 1948."

Difficulty in getting new equipment is a factor in causing manufacturers to alter their plans. One appliance producer reports that the earliest delivery promised on presses used to stamp out refrigerator or washing cabinets is a year to a year-and-a-half, so he's continuing to make 1941 models.

Signing Airtemp's 4-Star Dealer Plan

About to sign Airtemp's new "Four-Star Dealer Agreement," authorizing his firm to serve as an Airtemp dealer in Omaha and distribute to other Airtemp dealers in eastern Nebraska and western Iowa is C. L. Carper, president of the Sidles Co. Seated next to him is Victor L. Toft, vice president-general manager; and (standing) F. E. Prawl, manager of the firm's air conditioning division; Harry B. Sidles, vice president-treasurer; and W. S. Moellering, regional coordinator for Chrysler Airtemp.

E. F. Anderson Will Head Wisconsin Contractors

MILWAUKEE—Newly elected 1947 officers for the Refrigeration Contractors Association of Wisconsin are E. F. Anderson, president; Otto Braun, vice president; Fred Boehme, secretary; Henry Rozga, treasurer.

The association, with headquarters in Milwaukee, recently launched a membership drive. The main speaker and drive spearhead was E. S. Wright of Youngstown, first vice president of the National Association of Refrigeration Contractors. Fourteen new members were added.

The association is especially active at present on code, license, and unfair trade practice matters.

United Appliances Incorporated In Texas with $20,000 Stock

BRYAN, Tex.—United Appliances, Inc., has been incorporated with $20,000 authorized capital stock to operate a retail business here by Claude A. Edge, J. Cameron Webb, and P. E. McDaniel.

G-E Orders for 1946 Reflect 12% Boost Over Previous Year

SCHENECTADY, N. Y.—Orders received by the General Electric Co. during the year 1946 amounted to $941,881,000, an increase of 12% over the total of $844,540,000 for 1945. The 1946 total was more than double the amount of new business booked in any year prior to 1940.

CPA Approves $49,000 In Lockers, Storage Plants

WASHINGTON, D. C.—Construction of two frozen food locker plants and a cold storage plant at a combined cost of $49,880 was approved by the Civilian Production Administration's Facilities Review Committee during the week ended Jan. 2.

W. H. Hoecher was given permission to build a $27,000 locker plant at Orinda, Calif., and the project for erection of a $20,000 plant at Shevlin, Minn., by Shevlin Co-op. Creamery was approved. Victor Olson was authorized to proceed with construction of $2,880 worth of cold storage facilities at Assaria, Kan.

PLANT YOUR FEET ON QUALITY STREET!

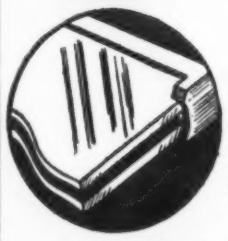
These are Typical Quality features IN THE JORDON FROZEN FOOD LINE

"FREEZEWALL"

Coils in direct contact with inner wall intensify freezing action—speed operation—give better food protection.

"FREEZEWALL" CONTROL

Simple, external hand control and visible degree indicator assures correct temperature—ends guess-work.



"TWINDOW" DOORS

Double glass in hermetically sealed stainless steel frame. Fog and dirt proof. Highest insulating efficiency.

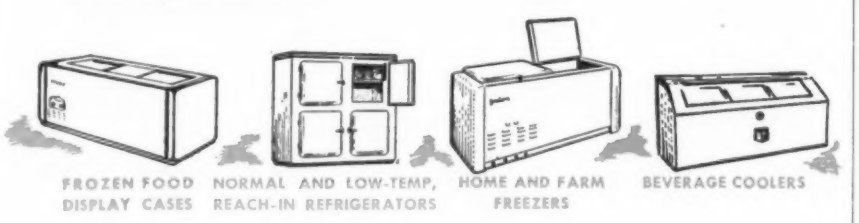
In Production Now!

ALL-WELDED STEEL CONSTRUCTION
HI-BAKED "EVERLAST FINISH"
or ALL STAINLESS STEEL

JORDON Construction–JORDON Policy–Protects Distributors and Dealers.

JORDON says—"It's the *hidden* details of construction—between the walls—that makes the difference between a really *good* cabinet and one that is merely good looking!" And JORDON speaks from almost 50 years of cabinet building experience. You can take it from this old-timer—when the shouting is over the dealers who come out with a profit and a permanent business will be those who started with Quality—and stayed with Quality. There's a golden opportunity today—*don't muff it!* Drop us a line—we have a real story to tell you about the complete Jordon line.

A NATION WIDE DISTRIBUTING SYSTEM: *Jordon Refrigerators are distributed Nationally by responsible distributors and dealers. Current manufacturing expansion enables us to entertain additional outlets in territory not now covered. Inquiries are invited.*



FROZEN FOOD DISPLAY CASES | NORMAL AND LOW-TEMP, REACH-IN REFRIGERATORS | HOME AND FARM FREEZERS | BEVERAGE COOLERS

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AMERICA'S MODERN COMMERCIAL LINE

PLANT: PHILA., PA.

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235 N. BROAD STREET, PHILADELPHIA 7, PA.
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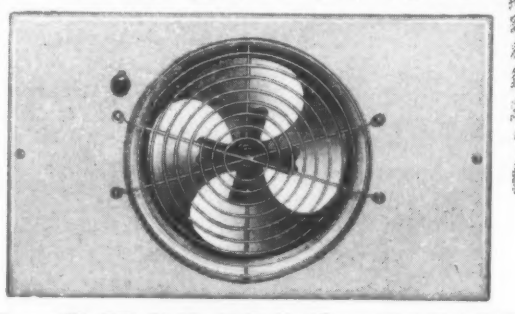
FOR REACH-INS WITH AIR PURIFICATION



A CEILING UNIT completely NEW and DIFFERENT

Controlled Air Movement - - Small and Compact - - Air Purification - - Sensibly Priced. Made in 3 sizes to balance ¼, ⅓ and ½ H.P. Compressors.

Sold by Leading Refrigeration Wholesalers

BETZ CORPORATION
HAMMOND, INDIANA

"Now I know . . ."

"Many's the man and wife I've watched come in the front door . . . have a quick look 'round . . . then make a bee-line for the Kelvinator.

"No two ways about it . . . there isn't a more beautiful cabinet on the floor. And if you ask me . . . it's one refrigerator that lives up to the advertised promise of 'the best things first'. It's easy to get enthusiastic over features like the Magic Shelf, the Cold-Ban, the big Frozen Food Chest and Moist-Master Refrigeration.

"But after I've written up the orders for these couples . . . and we've parted like old friends . . . I've often wondered . . .

"What *was* the difference that helped me make the sale?

"Now I know . . .

"It's something that happens to you inside. You have real confidence as you step up to that Kelvinator. All the time you're talking . . . you keep thinking of Kelvinator's dependability . . . the trouble-free performance of the Polarsphere . . . the inside story that makes your sales story ring true."

Dependability will always be the watchword for Kelvinator. It sparks the extra care that goes into Kelvinator design and workmanship. It put the bracing and cross-bracing into the one-piece steel cabinet . . . determined the Permalux finish that will *never* fade. The quietness of the door latch gives its own reason for the *composition* bolt. And what *can* match the Polarsphere . . . sealed in steel . . . permanently lubricated!

Kelvinator recognizes that building finer products is only half the battle. And *Retail-Minded* as ever, Kelvinator's great Vocation-in-Sales Program provides each Kelvinator dealer with assistance in picking the right men, in sales and product training and building a sound retailing operation that will make sales today . . . tomorrow . . . and year after year!

You build a future with RETAIL-MINDED **Kelvinator**

. . . THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

DIVISION OF NASH-KELVINATOR CORPORATION · DETROIT 32 · MICHIGAN

WANTED TO BUY
For Export
NEW DOMESTIC REFRIGERATORS
Electric or Gas
LARGE QUANTITIES—ALL SIZES AND MAKES
State—Prices and Deliveries
Deliveries over extended periods will be considered. Excellent opportunity for small manufacturers to share in export trade.
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AS-IS AND REBUILT REFRIGERATORS
FOR SALE
A.C. or D.C.
Large Quantities in Stock
Available for Immediate Delivery
Write today for details
S. J. O'BRIEN SALES CORP.
Established 1910
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AVAILABLE FOR DELIVERY:
1/3-1/2-3/4 Condensing Units
Priced Right on
Large Quantity Sales
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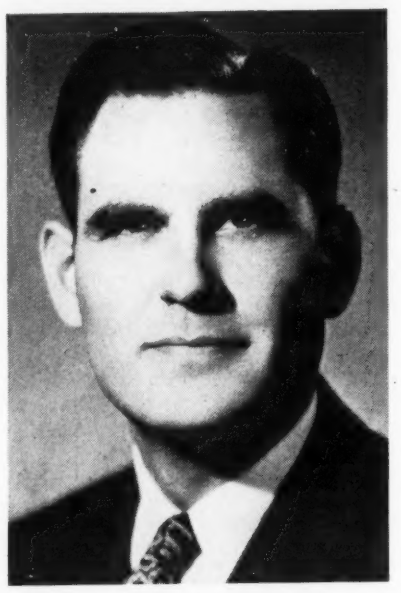
Range Sales Manager



H. A. WILLIS

He has been appointed head of range sales for Kelvinator.

Omaha Air Terminal to Use Refrigerators for Cargo

OMAHA, Neb.—United Air Lines has announced it will install ground refrigerator units at the municipal airport here for special handling of air freight shipments.

Local officials of the company said installation would be completed within 90 days and that eight other key points along the airline's route will get similar equipment.

Refrigerator Sales--

(Concluded from Page 1, Column 2)

pliers. Be on cordial terms with them. Their items may not be interesting to you today, but tomorrow they or their representatives may be in a better position to serve you.

4. Have a properly selected and well trained selling organization.

5. Have a good sales department (a) with sufficient space for well arranged displays of staple merchandise, (b) with attention getting and traffic producing features such as kitchens, active demonstrations, etc., and (c) well located in or adjacent to natural traffic.

6. Proper credit facilities with a sympathetic credit manager who will work with the appliance department at least up to the point of taking business that is a good risk.

7. Enough buying power and sufficient stock. Consider quantity buying when and where it is necessary, particularly so if your profit structure can be improved.

8. Good warehousing and delivery facilities. Spend more time and money to do this part of the job right, thus reducing the work of your bureau of adjustment which will result in improved customer relations. Proper handling of merchandising definitely will reduce the mark downs.

9. Have a well trained service department run on a basis of customer satisfaction which will render proper service on "in" and "out" of guarantee merchandise. A good service department plays a very important part in building a large sales volume.

10. Keep everlastingly at the task of trying to improve your whole organization.

Jack & Heintz Elects Stupp Vice President

REBER C. STUPP

* * *

CLEVELAND — Reber C. Stupp, who is to be production manager for Jack & Heintz Precision Industries, Inc., was elected a vice president and director of Jack & Heintz at a board of director's meeting held Jan. 17.

Mr. Stupp has been with the Delco Products Division of General Motors Corp. since 1922 and for the past four years has been plants manager in the three Dayton and two Cincinnati plants.

He was recently chosen for an award of merit by Production Engineering & Management magazine for his achievement in metal working mass production.

REMA Show Plan--

(Concluded from Page 1, Column 2)

Representing 104 manufacturers who are members of REMA, and taking into full consideration reports from the 208 exhibitors in the Fourth All-Industry Show, the REMA directors decided on the biennial exposition program as one which will enable the industry to display its products to the greatest effectiveness. It was felt that the two-year policy not only will keep the industry's expositions from the class of "just another show" but will result in each exposition being truly representative of the industry in all its segments.

Expanding its previous policy, the Fifth and subsequent all-industry shows are being planned as events of importance to dealers, equipment distributors and contractors as well as to wholesalers, service engineers, and others engaged in all branches of the industry. Show features will be planned to interest members of the industry on all levels—designing, manufacturing, selling, installing, and servicing—and the month of January was selected as most suitable from the standpoint of those who will attend the shows as well as those who will exhibit.

Coincident with the adoption of the future exposition program, the REMA directors also reaffirmed the association's policy of using the show proceeds for the benefit of the entire industry by approving the association's continued sponsorship of an all-industry public relations program. At the same time, the directors approved the beginning of actual planning of events in connection with the Fifth All-Industry Exposition in January, 1948, and of the show itself. The same four exhibition halls in the Cleveland Public Auditorium as were used for the 1946 All-Industry show will again be occupied in 1948.

Already, Fifth All-Industry Show officials are taking steps to assure adequate hotel and housing facilities for show visitors. Cleveland hotel managements, now familiar with the size and importance of the industry's show, are making definite plans to assure ample accommodations during the four-day event in 1948, and REMA officials will maintain continuous contact with Cleveland housing authorities as exposition requirements of both visitors and exhibitors are ascertained.

By comparison- You'll buy **PAR**
REFRIGERATION EQUIPMENT
WRITE FOR CATALOG
Lynch MANUFACTURING CORPORATION
DEFIANCE, OHIO, U. S. A.

Lehigh BLU-COLD COMMERCIAL REFRIGERATION

Here's Sweet Music

...for the ears of wholesalers, dealers and condensing unit users"—
Says the **LEHIGH TEAM**

Our outlets report that during 1946 *Lehigh* BLU-COLD had the smallest percentage* of field failures in the industry

That means, BLU-COLD sellers and users had LESS SERVICING, fewer disappointments, more satisfaction — and made MORE MONEY in 1946.

That's the kind of music we all need in this business — and we are going to give you more of it in '47.

Lehigh BLU-COLD COMMERCIAL REFRIGERATION

1/4 to 1 H.P. Now Coming Off The Production Line. Complete Line To Include Up to 5 H.P.

**Percentage available on request*

Lehigh Manufacturing Co. PLANT: LANCASTER, PA.

The Ansul Research Staff REPORTS ON:

SLUDGES

Approximately 90% of the sludges produced in refrigerating systems are due to moisture. The exact cause can always be determined by analysis, but the appearance of the sludge (see photos) is usually indicative of the cause.

SLUDGE DERIVED FROM MOISTURE— If water is present in a machine, the nature of the sludge depends upon the type of refrigerant and length of time the water is present. All refrigerants ... sulfur dioxide, methyl chloride, Carrene and "Freon-12" ... react with water to produce corrosion products characteristic of each. To prevent sludge, the amount of water present in a refrigerating system must be small enough to avoid ice separation and corrosion. For "Freon-12" and methyl chloride, a quantity of water approximately .05% by weight will cause corrosion; the limit is somewhat higher for sulfur dioxide.

SLUDGE DERIVED FROM OILS—Oil sludges are characterized by total or partial solubility in carbon tetrachloride, gasoline and similar solvents. It is generally presumed that oil sludges are due to two causes: (1) an interaction between the unsaturated constituents of the oil and the refrigerant; (2) a breakdown of the oil due to heat, oxidation, friction, etc.

GRANULAR SLUDGE ... due to moisture

FLUID SLUDGE ... due to oil

HARD SLUDGE ... due to moisture and oil

SEND FOR "SLUDGES" by Ansul Research Staff
A detailed analysis of the refrigeration sludge problem.

ANSUL WHOLESALERS are ready and equipped to render an intelligent, cooperative service to refrigeration engineers and maintenance men on problems which arise from time-to-time in the operation of refrigerating systems.

FOR EXAMPLE:
The Ansul Research staff has developed a method for analysis of sludges. This analysis usually gives the answer as to the origin of the sludge. If you have a sludge problem, send a sample of the sludge with pertinent information to the Ansul Research Laboratory through your Ansul wholesaler. An analysis report will be made for you without charge.

Ansul Refrigerants are available at leading wholesalers everywhere.

ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION, MARINETTE, WISCONSIN
DISTRIBUTORS FOR KINETIC'S "FREON-11," "FREON-12," "FREON-21," "FREON-22" AND "FREON-113"
*REG. U. S. PAT. OFF.

20 YEARS OF PROGRESS

Norge celebrates its 20th birthday with more and better products . . . more and better dealers!

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

SYMBOLS

DL = Day Letter
NL = Night Letter
LC = Deferred Cable
NLT = Cable Night Letter
Ship Radiogram

A. N. WILLIAMS, CHAIRMAN OF THE BOARD — JOSEPH L. EGAN, PRESIDENT

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

HOWARD E. BLOOD AND STAFF
NORGE DIVISION, BORG-WARNER CORPORATION
DETROIT, MICHIGAN

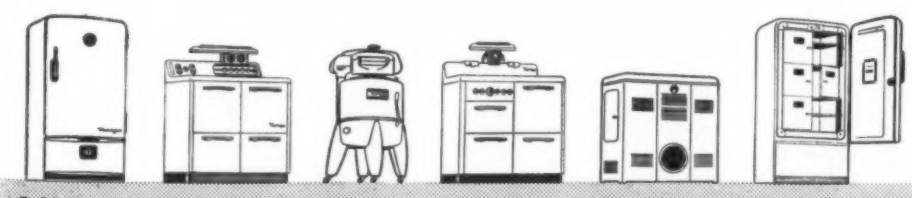
AS YOUR FIRST NORGE DISTRIBUTOR, MAY I OFFER CONGRATULATIONS ON NORGE'S TWENTIETH ANNIVERSARY AND THANKS FOR THE LARGEST, FINEST AND MOST COMPLETE LINE OF MAJOR HOUSEHOLD APPLIANCES ON THE MARKET TODAY.

WE ARE MOST ENTHUSIASTIC OVER THE MERCHANDISE AND MOST OPTIMISTIC OVER THE FUTURE. WE WISH TO REAFFIRM OUR CONFIDENCE IN NORGE AND REPLEDGE OUR LOYALTY.

LUDWIG HOMMEL
LUDWIG HOMMEL & CO.
FOR ALL NORGE DISTRIBUTORS AND DEALERS

A BORG-WARNER INDUSTRY

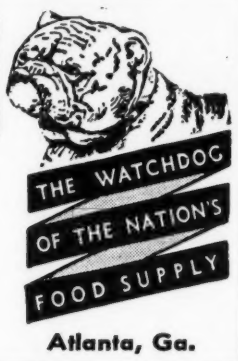
Norge is the trade-mark of Norge Division, Borg-Warner Corporation, Detroit 26, Mich. In Canada: Addison Industries, Ltd., Toronto, Ont.



SEE NORGE BEFORE YOU BUY

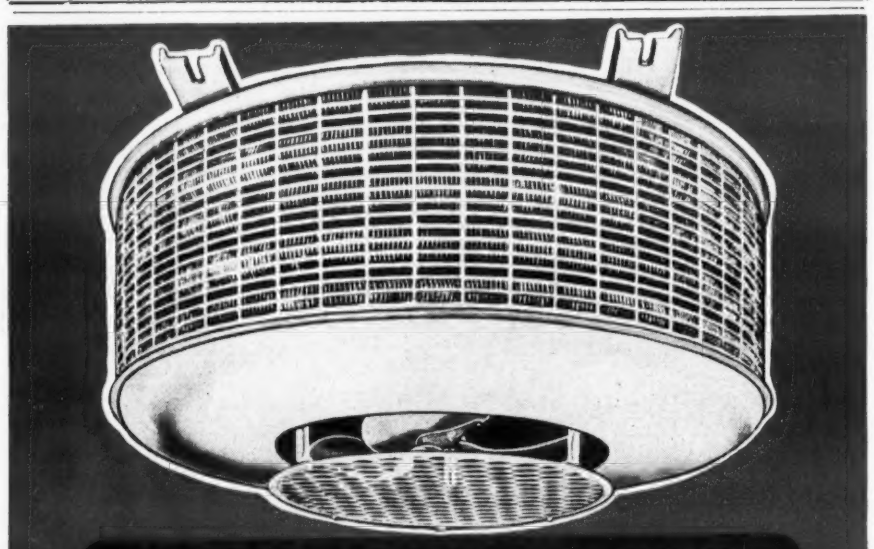
We Manufacture XL
'Freon' Compressors and Condensing Units (1 to 10 h.p.)
Ammonia Compressors 4x4 — 5x5 — 6x6
Ammonia Valves 1/4" to 5" Screwed and Flanged
ALSO
Ammonia Flanges—Strainers—Discharge Check Valves
AIRCRAFT PRODUCTION ENGINEERS
DIVISION OF
THE XL REFRIGERATING CO.
1834-42 WEST 59th STREET CHICAGO 36, ILL.

LARKIN



MECHANICAL REFRIGERATION PRODUCTS
Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—
LARKIN COILS, 519 Memorial Dr. S.E. Atlanta, Ga.

*"B"-DAY IS BACK!
WE'RE glad of "B"-Day's return.
All through the days of shortages, controls and priorities, we never forgot that "B"-Day would be back. We never failed in our aim to serve pleasantly, thoughtfully, helpfully and to the limit of our abilities.
Your response to this policy has placed us up front among the leading wholesalers in the refrigeration industry. To us, it's your mandate . . . one which in 1947 and succeeding years we will continue to follow, most sincerely, to the letter.
*Buyer's Day
CHASE REFRIGERATION SUPPLY CO.
546-48 West 119th St., Chicago 28, Illinois

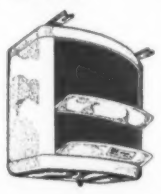


MODEL 100CD—A NEW
M&E CEILING DIFFUSER
for Cabinets with Low Head Room

FOR ALL ABOVE-ZERO APPLICATIONS
● Model 100 CD—M&E Diffuser is specially designed for use in cabinets with low head room. The motor is totally enclosed inside the coil. In this model the air enters through the bottom opening, passes over the refrigerating coils and flows out uniformly through the circular grill around the sides. Completely automatic. Heat exchanger included. Accurate ASRE Rating.

THE M&E LINE IS COMPLETE

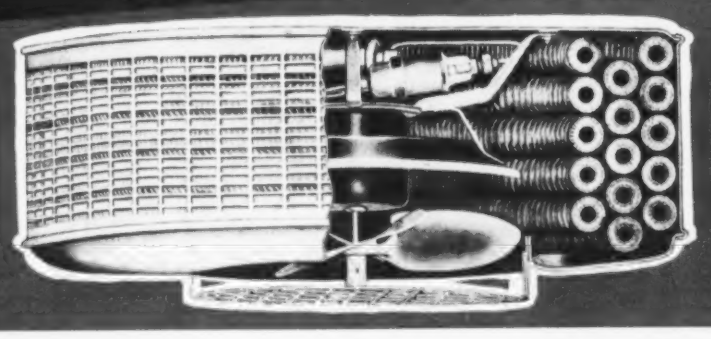
. . . and includes both WALL AND CEILING models in a wide variety of capacities. Catalog on Request.



Manufactured and Distributed by
MERCHANT & EVANS CO., Phila. 46, Pa.

SHOWING SIMPLE, STURDY CONSTRUCTION OF MODEL 100 CD

Inquiries Invited from Responsible Distributors



950,000 Laundry Units Seen In '47 by Bendix

NEW YORK CITY — In 1947, Bendix Home Appliances, Inc. will build, sell, and ship 700,000 automatic washers, 150,000 automatic dryers, and 100,000 automatic ironers, W. F. Linville, Bendix general sales manager, told department store executives at the National Retail Dry Goods Association convention here recently.

Bendix has already produced 365,000 automatic washers since September, 1945, he declared.

He pointed out that 12.76% of the automatic washers sold during 1946 were merchandised through department stores.

To help retailers sell Bendix washers, the company has started a $500,000 advertising campaign in January, he reported.

Mr. Linville predicted that 3,000,000 washers will be sold in 1947 and 5,000,000 in 1948 or 1949.

Urging department stores to buy their washers through distributors rather than directly from manufacturers, he told the executives that distributors aided them by contributing sales training, service, home service training, advertising, and promotion.

Extension of 5 Patents Asked Because of War

WASHINGTON, D. C.—Life of five patents on dishwashers and washing machines would be extended four years if Congress approves a bill introduced on behalf of the inventor who claims that lack of production during the war prevented him from exercising his patent rights.

Four of the patents, held by Charles A. Murdock of New York City, expired during the war, and the fifth will expire shortly.

The proposed bill, according to Rep. Arthur G. Klein, its sponsor, would not interfere with the rights of others holding conflicting patents or applications for patents before the bill is enacted, or those lawfully engaged in the manufacture, use, or sale of these inventions.

Kurung Shifted to G-E Conditioning Production

BLOOMFIELD, N. J. — Frank C. Kurung, formerly assistant to the manager of General Electric's Control Division, has been appointed assistant to the manager of manufacturing of the company's air conditioning department.

Mr. Kurung joined the General Electric Co. in 1919 as a student in the apprentice training program, and was graduated as a tool and die maker in 1924. He became associated with the Control Division in Bloomfield in 1929 and in 1937 was named supervisor of the planning section. In 1941, when industry was converting to war production, Mr. Kurung was named assistant to the manager, in charge of manufacturing.

Presteline Boosts Range Price 8% as Components, Traffic Rates Increase

CHICAGO—Prices of the Presteline electric ranges have been boosted 8.63% because of a "rise in costs of component parts and new traffic rates," distributors were informed at a meeting here by A. Raysson, general sales manager of Pressed Steel Car Co.'s domestic appliance division.

In addition to announcing the new prices, which included a shifting of price zones, two new appliances were reportedly shown to distributors. These included a household refrigerator and a new range, production of which will begin after the company has enough steel to turn out 50,000 ranges this year, according to Mr. Raysson.

The price increase was approved by the distributors' advisory committee, he said, in listing the new price setup as follows:

Zone 1 (Illinois, Indiana, Michigan, Wisconsin) $260.50. Formerly $238.

Zone 2 (Southeast, Atlantic seaboard, other midwest states $264.25. Formerly $241.75.

Zone 3 (Maine, Florida, Louisiana, Texas, Colorado, Wyoming, Montana, North and South Dakota) $268. Formerly $245.50..

Zone 4 (New Mexico, Arizona, California) $271.75. Formerly $249.25.

Extras not included in these prices are the "Deepwell" pans at $1.90 and the pigtail attachment at $3.80.

Brass & Copper Sales Set To Occupy New Building

ST. LOUIS—A three-story reinforced concrete building, which was scheduled to have been completed here in December, will mark the sixth expansion in 20 years by the Brass & Copper Sales Co., refrigeration parts and supplies wholesaler here.

The announcement further stated that all offices will be air conditioned, utilizing the same equipment for both heating and summer cooling. For rapid, more efficient handling of metals and air conditioning supplies, the new structure will be outfitted with overhead cranes.

Location of the new building is just east of Brass & Copper Sales' present offices at 2817 Laclede Ave.

Wayne Wands Will Head New Orleans Association

NEW ORLEANS — Wayne B. Wands has been elected president of the Electrical Association of New Orleans. Other new officers are S. L. Drumm, executive vice president; Harry B. Lackey, vice president, wholesalers, utilities, and manufacturers; C. C. Walther, vice president, refrigeration; Walter J. Barnes, vice president, electrical contractors; J. O. Crary, vice president, air conditioning and ventilating; A. C. Denny, vice president, radio; W. E. Clements, director of publicity; J. R. Guidroz, secretary; and I. W. Tufts, treasurer.

R. D. Marshall & Co. New Parts Wholesale Firm

K. W. SMITH R. D. MARSHALL

* * *

ALBANY, N. Y.—Formation here of a new wholesale refrigeration and air conditioning supply house, R. D. Marshall & Co., Inc., to serve eastern New York and western Massachusetts and Vermont is announced by R. D. Marshall, president and treasurer.

Other officers of the firm, located at North Pearl and Van Woert Sts., are Ellen B. Marshall, vice president and secretary, and K. W. Smith, general manager.

For the last eight years, Mr. Marshall has been manager of the New York office of Automatic Products Co. He was at one time manager of midwestern sales for Penn Electric Switch Co., and later was one of the original partners who formed Delavan Engineering Co. in Des Moines, Iowa. He is a member of the New York section of the American Society of Refrigerating Engineers.

"Ken" Smith has been active in the refrigeration jobbing field for eight years. He was manager of the Albany and Manhattan branches of Melchior, Armstrong, Dessau Co., Inc., prior to the war and manager of the Syracuse branch afterward.

Previous to these associations, Mr. Smith was in the refrigeration installation and service business here with his father, John W. Smith. He served in the U. S. Army Air Corps during the war.

The New York territory the company plans to cover is bounded roughly by Kingston on the south, Little Falls on the west, and the Canadian border on the north.

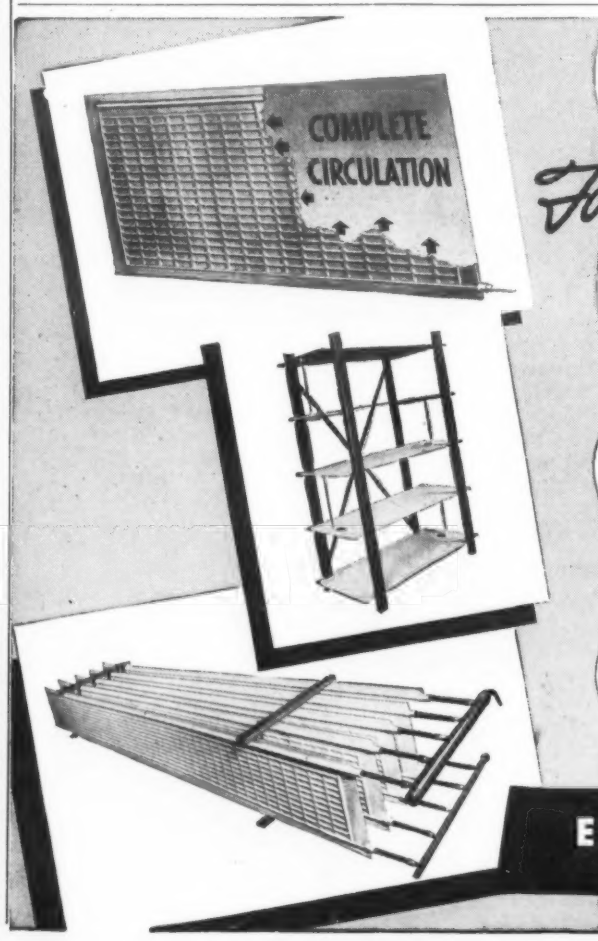
NARC Directors to Meet In St. Louis Feb. 9-10

CLEVELAND—Board of directors of the National Association of Refrigeration Contractors will hold a meeting Feb. 9 and 10 at the Statler hotel in St. Louis.

All 12 directors will be present, according to present indications.

A meeting will be held the evening of Feb. 10, with some of the prominent St. Louis refrigeration contractors, to discuss local and national conditions, together with prospects for 1947.

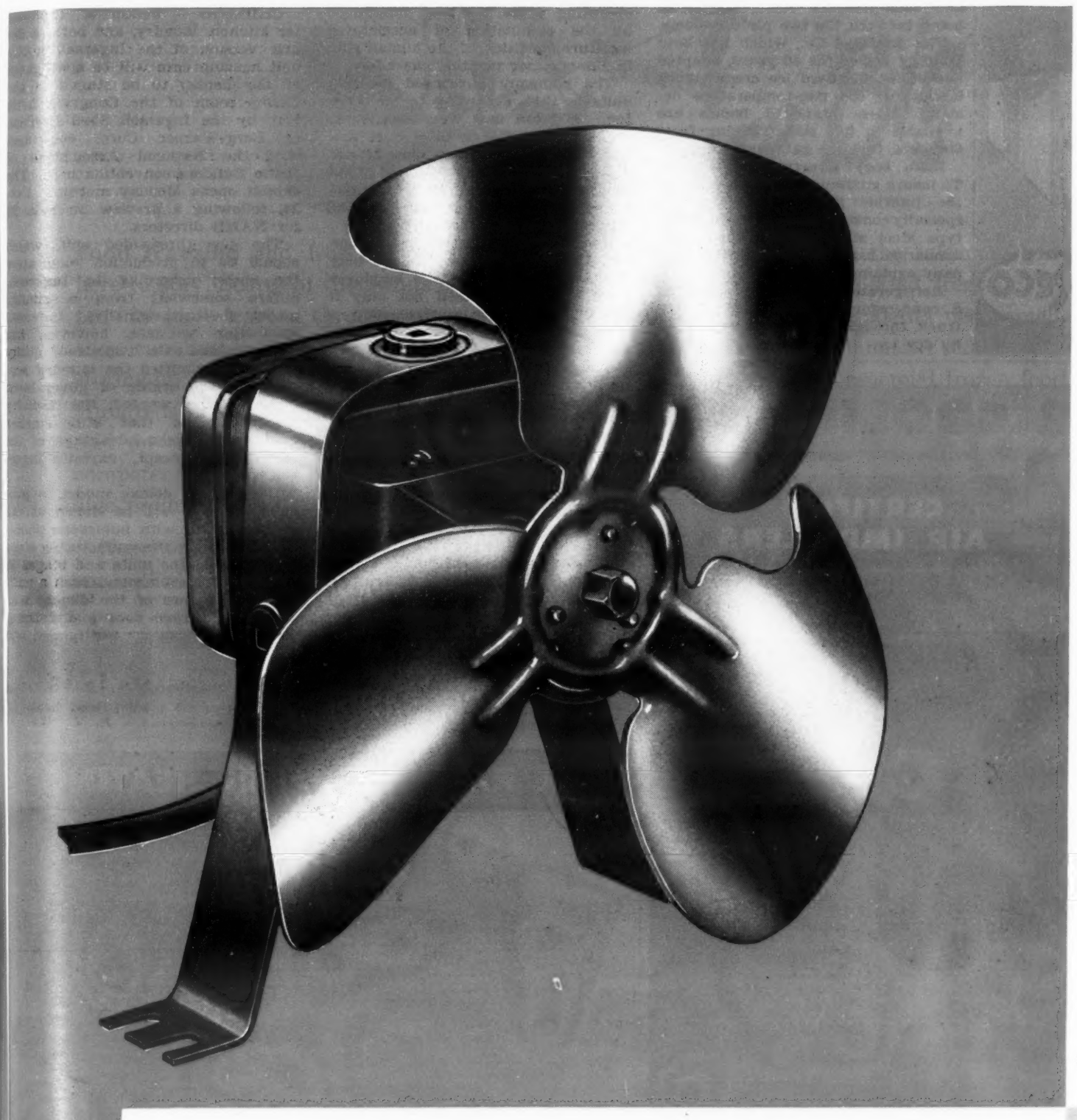
Suggestions or comments on industry needs are invited and will be gladly accepted from refrigeration contractors in any locality, regardless of whether or not they are members of NARC, it was announced.



For Complete Surface Freezing
HUBBELL-YODER
REFRIGERATION PLATES
—and we mean "*COMPLETE* SURFACE."
Take a 19" x 108" Hubbell-Yoder Plate for example. That's 2052 square inches of plate area. And every single square inch is actual prime heat pickup surface. You see the interior of the plate is a network of ducts through which the refrigerant circulates, spreading out in all directions so as to form a web of refrigerating element. That's "*Complete* Surface Freezing."
If you make, sell or use low temperature equipment such as freezer cabinets, locker plant plate banks, sharp freeze shelf stacks, etc., it will certainly pay you to get details on Hubbell-Yoder Plates. They'll step up operating efficiency and reduce operating costs. As the old darkey said, "Dat am no prophecy: dat am a *fact*." Write, wire or phone.
HUBBELL YODER REFRIGERATION PLATES
International Sales Agents
ENGINEERING SERVICE INC.
1309 WEST 80TH STREET CLEVELAND 2, OHIO

RAYTHEON

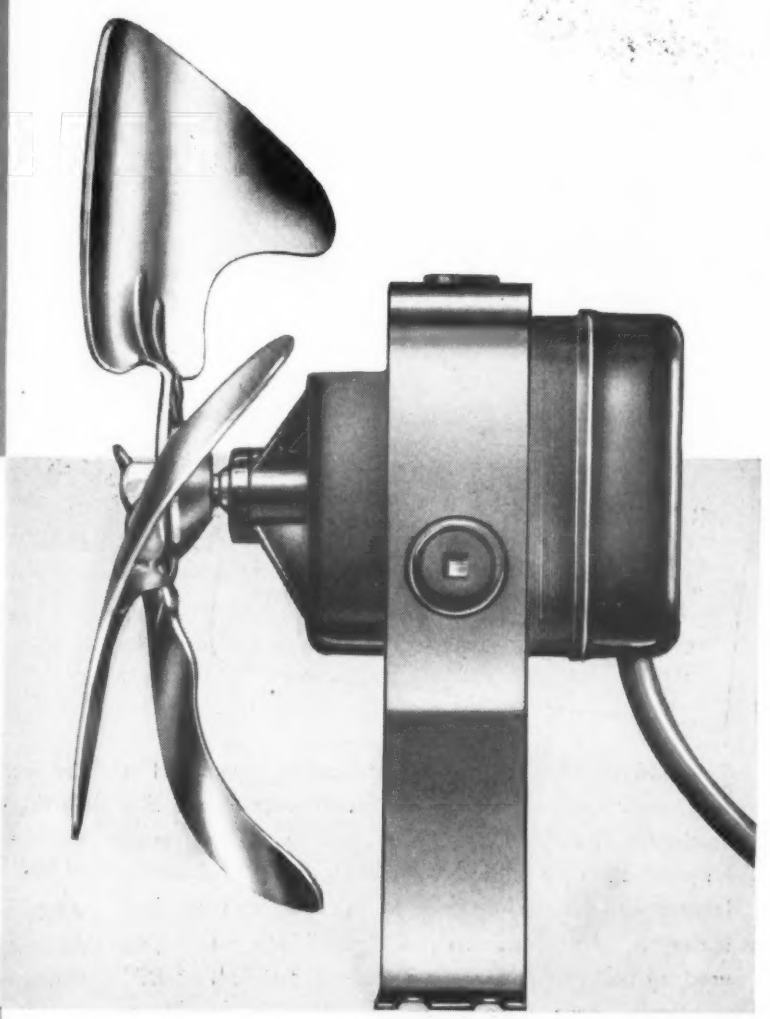
REFRIGERATOR FAN MOTORS ARE BACK... DELIVERY MAY FIRST!



YOUR LONG WAIT IS ENDED

Raytheon Refrigerator Fan Motors are now in production again. Available in two *new* types—equipped with either a 6-bladed fan 7¾ inches in diameter—or with a 3-bladed fan 8¾ inches in diameter, these precision-engineered refrigerator fans for compressor units are designed specifically for longer life and highest efficiency.

Several hundred thousand Raytheon Refrigerator Fan Motors have been in constant service for more than 10 years—establishing new records of performance and reliability. Consult us now regarding your requirements.



Raytheon Refrigerator Fan Motors Lead These 5 Ways:

- Balanced mechanical design
- High static efficiency
- Low noise level
- Sealed lifetime lubrication
- Lightweight aluminum blade

Russell Electric Company . . . .

340 West Huron St., Chicago, Ill.

TIMKEN IS GETTING SET — NEEDS ADDITIONAL DISTRICT SALES MANAGERS

These are "whipped cream" selling days, but they can't last forever. Therefore, Timken is getting set now for a resumption of the manufacturer-dealer-salesman teamwork that made the Timken Dealer Franchise so profitable before the war. Three of our Sales territories have been scaled down in size (to permit more frequent calls on dealers) and openings for three additional District Sales Managers thus have been created. The open territories are: (1) Iowa and portions of two adjacent states, (2) Eastern New York State, (3) Ohio. Successful applicants for these positions will be capable salesmen, intensely ambitious, between 30 and 40 years old, experienced in working with dealers, and will have a good working knowledge of heating. The salaries and commissions offered are in keeping with the responsibilities and duties of the work. If you feel you can meet our requirements and wish to be identified with the leader in the oil heating industry, address details of your qualifications to T. A. Crawford, General Manager, Timken Silent Automatic Division, Detroit, Michigan. All applications will be held in strictest confidence.

"RECO-FAB"

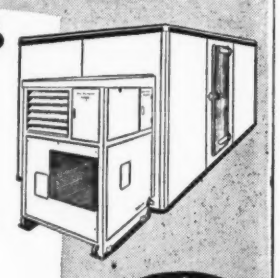
WALK-IN REFRIGERATORS

★ STEEL CLAD
★ 6" INSULATION
★ HEAVY DUTY HARDWARE
★ ACCESSORIES
★ LEAK PROOF JOINTS
★ EXPORT PACKED

■ STORES
■ FARMS
■ RESTAURANTS
■ INSTITUTIONS
■ FACTORIES
■ DAIRIES
■ FURRIERS

Rugged quality construction assures long life. Simple to assemble . . . move or enlarge . . . insulated for low or medium temperatures . . . available with self-contained refrigeration system.

Available in sizes from 675 to 3,400 cu. ft. capacity.



WRITE FOR A CATALOG
DEPT. ACR.

RECO

REFRIGERATION ENGINEERING CORP.
1518 WALNUT ST. • PHILADELPHIA 2, PA.

IMMEDIATE DELIVERY
Call PEnnypacker 5-9913

Schnabel 2-Temp Truck Can Carry Varied Cargo

PITTSBURGH — Two refrigerated compartments, held at 35° F. and 0° to 4°, respectively, are featured in a new truck body developed by the Schnabel Co. here, according to Ray Mansmann, chairman of the board.

This feature should be particularly useful for chain stores employing their own trucks, since a single truck could be used to haul milk, butter, ice cream, and frozen foods.

Center compartment of the truck is separated from the rear compartment by a 3-in. thick fiberglass partition. Sides and floor of the body have 6 in. of fiberglass insulation, the roof, 8 in.

To achieve the two-temperature operation, truck hold-over plates of different eutectic points are used, along with two expansion valves hooked up with a single thermostat and back-pressure valve, the latter being between the two plate systems.

The Schnabel Co., which has been building bodies for 86 years, adapted one of its standard ice cream truck bodies for the two-temperature design. These standard bodies are available in five sizes ranging from 600 gals. to 1,500 gal. capacities.

Main body structure is of steel. To insure minimum refrigeration loss, the interior lining is a separate, specially constructed watertight, tank-type steel structure, installed after insulation has been applied, the company explains.

Refrigeration may be supplied by a condensing unit mounted on the truck, through a hold-over system, or by dry ice.

Packaged Air Conditioners Raise Skill of Employes at Precision Instrument Firm

TULSA, Okla. — Employment of Chrysler Airtemp "packaged" air conditioning units has resulted in increased employe efficiency, better workmanship, and better products at the Matnick Co. plant here, according to C. R. Horton of the company.

Matnick Co. manufactures timing units for oil well blasting, parking meters, spring-wound chart clocks, time cycle controllers, and taxicab meters.

"We believe that the exacting requirements of all parts going into our precision instruments have been better served by the closer attention that can be given wherein there is no distraction by reason of human discomfort," Mr. Horton declared.

"We have also noticed that corrosion or rust upon final instrument operating parts has been minimized by the elimination of accelerated moisture condition of the human skin in the summer months," he added.

The company purchased its first units in 1941, according to Mr. Horton. A 5-ton unit was installed in the general office with a duct system supplying all individual offices. A 3-ton unit was set up in one of the separate final assembly locations, where the tedious handling of small intricate parts was required.

Speaking of the latter installation, Mr. Horton declared: "Before long, it was apparent that the employes' comfort reflected itself not only in the quality of the workmanship of final production, but fewer reruns of calibration resulted."

The installation of a second 5-ton unit brought corresponding increase in efficiency in another clock final assembly department.

From the experience gained in these installations, the company decided to air condition the whole plant, Mr. Horton said. Shortly after that was accomplished, the plant's floor space was expanded.

"The flexibility of the packaged units and their ability under changing conditions manifested itself in this expansion," Mr. Horton asserted.

"It was necessary to rearrange all factory fixtures and machines throughout the entire plant. All units, with the exception of two, of necessity had to be moved from their original installation. This was quite an advantage in that the original engineered system in the older part of the plant involved only very slight changes in the supply and return condenser water pipes."

The success experienced with these applications led to installation of "packaged" Chrysler Airtemp units in the homes of company president G. E. Nicholson, and his associate, J. B. McGay, it was said.

The M. E. O'Bannon Co., Chrysler Airtemp dealer here, made all the installations.

Borg-Warner to Show Deluxe Ingersoll Unit

CHICAGO — Featuring facilities for kitchen, laundry, and bath, a deluxe version of the Ingersoll utility unit housing core will be spotlighted at the display to be staged in the Casino room of the Congress hotel here by the Ingersoll Steel Division of Borg-Warner Corp. coincident with the National Association of Home Builders convention here. The exhibit opens Monday morning, Feb. 24, following a preview on Feb. 23 for NAHB directors.

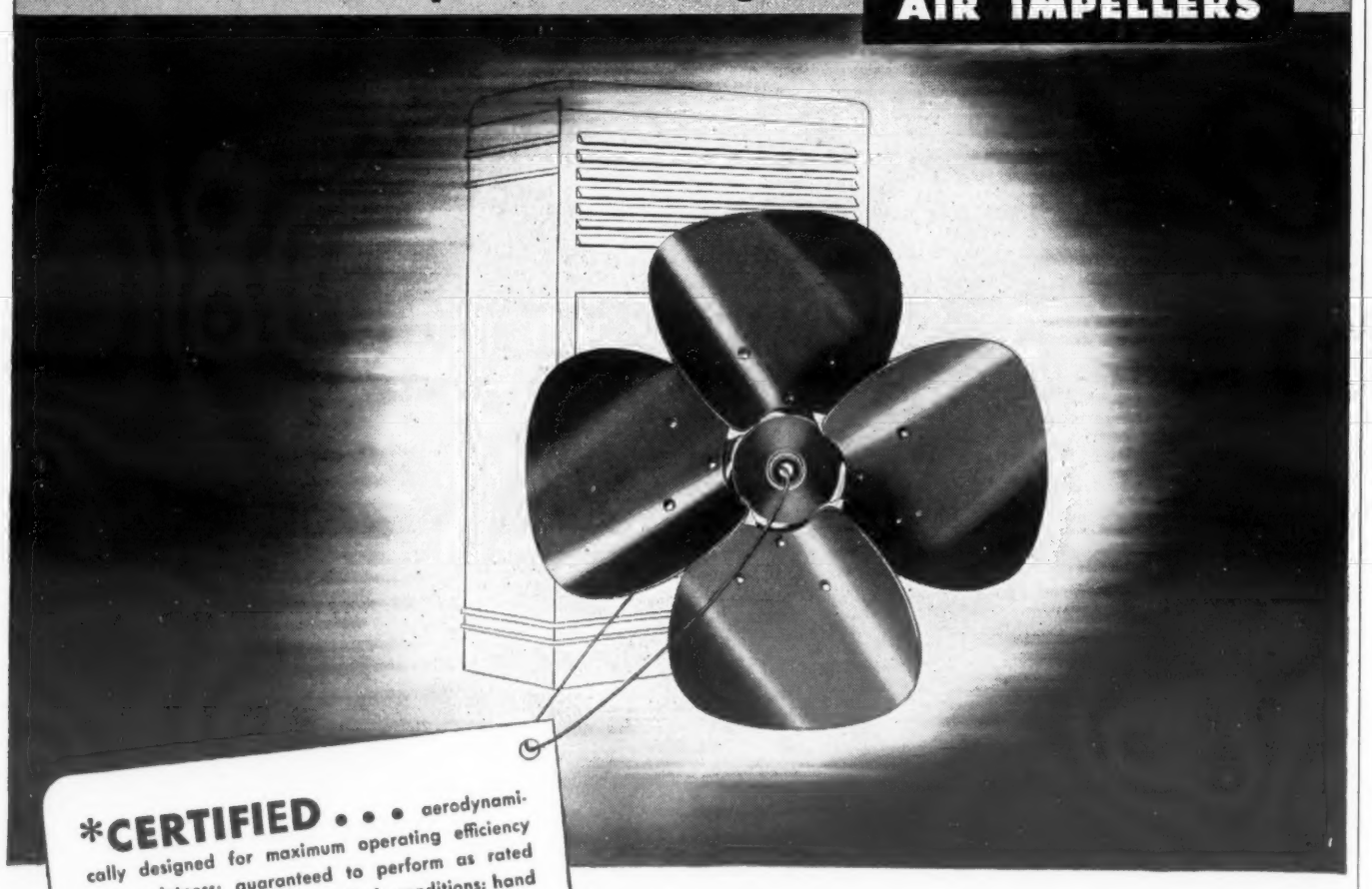
The new three-sided unit, which should be in production soon after the show, according to Ingersoll, differs somewhat from a similar model shown originally. Ingersoll production to date, however, has been confined to a "two-sided" utility unit which omitted the laundry section, "at the urging of government bureaus who wanted the laundry lopped off .so that still smaller houses could take advantage of the engineering concept," explains Ingersoll.

Besides the deluxe model, a production model will be shown at the exhibit, along with numerous photo-murals depicting manufacturing steps in producing the units and stages in building a house around such a unit. Another feature of the display will be the numerous floor and building plans into which the utility unit can be fitted.

At present the Ingersoll unit is being distributed and installed by 20 firms on a territorial basis.

13% MORE AIR FOR COOLING . . .
NOISE MINIMIZED
with the help of Torrington

CERTIFIED* AIR IMPELLERS



*CERTIFIED • • • aerodynamically designed for maximum operating efficiency with quietness; guaranteed to perform as rated under NAFM and NEMA Test Code conditions; hand gauged for uniform contour, alignment and balance. The Torrington Manufacturing Company.

UNSATISFACTORY condenser cooling prompted a manufacturer of room air conditioners to see if a Torrington Fan Blade would improve the performance of his product. In Torrington's complete research and testing laboratory, the performance of this unit was checked under NAFM procedure. The 12" fan blade then being used by the manufacturer delivered 513 C.F.M. at .09" resistance, while a standard Torrington 12" fan blade delivered 555 C.F.M. at .11" resistance. And by applying the experience that goes into Certified Air Impellers, Torrington Engineers were able to recommend a design change in the orifice of this unit which boosted air delivery to 583 C.F.M. Noise was minimized.

While records show case after case where Torrington Airistocrat Fan Blades and Airotor Blower Wheels have improved product performance, you will benefit most from Certified Air Impellers by consulting Torrington while your product is still in the design stage.

Talk over your air impelling problems with the Torrington representatives at Booth 501, *7th International Heating and Ventilating Exposition*, Jan. 27-31, Cleveland, Ohio.

THE TORRINGTON MANUFACTURING COMPANY, TORRINGTON, CONNECTICUT

AIRISTOCRAT FAN BLADES • AIROTOR BLOWER WHEELS • IMPROVE PRODUCT PERFORMANCE

FOR RADIANT PANEL HEATING

NIBCO WROT *Copper Fittings*

IN THE MARION SCREW PRODUCTS COMPANY BUILDING AT MARION • INDIANA

RADIANT HEATING installed in floors is ideal for factory buildings, but when heating pipes and fittings are embedded in concrete, they'd better be good! After the floor has been poured, they are not easy to reach. That's why Marion Screw Products Company chose copper pipe with NIBCO WROT Copper Fittings. The perfect solder joint between a WROT Fitting and copper tubing is permanent. If you are not familiar with NIBCO WROT Fittings, write today for Catalog 614.

NIBCO

NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904

Farm and Home Freezers are Big Business Today

Food freezing and frozen food storage are here to stay. Scores of thousands of American families have learned through experience that they can live better, easier, and cheaper by storing frozen food in a locker plant or at home. Hundreds of families in every community are sold on the idea and will buy as soon as a competent salesman calls and presents a reliable product with the features they want.

Nearly three million wired farm homes, and six million wired homes in small towns and suburban areas, invite the salesman who can sell large and medium-sized freezers. Untold thousands of urban residents need small size storage chests or combination refrigerators for shorter storage of commercial frozen food.

The wise dealer will select his freezer line with care, to be sure he is selling long years of satisfactory service to his customer. Practical cabinet design, adequate insulation sealed against moisture, and a good lowside with a dependable control of refrigerant flow and temperature are essential. Most important, however, is the condensing unit, which does the work of freezing and holding the food.

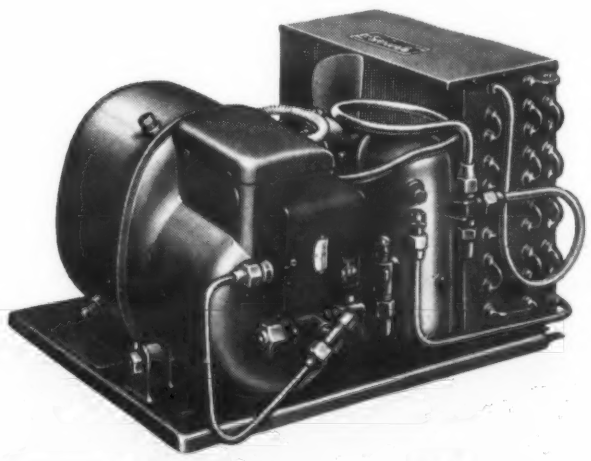
Servel condensing units have been serving the home freezer market for almost a decade. Before the war, they were used by America's pioneers in this field. Today, thousands of users testify to their faithful performance.

During 1946 thousands of Servel Supermetic units have been used on home and farm freezers. These are *Low Temperature* units, designed for this duty, with the proper displacement to operate efficiently at *Low* temperatures. Identified as "L" models, they have the high volumetric efficiency that is so necessary on high compression ratios. Precision fitting and "micro inch" control of mechanical finish also contribute to reduce operating time and current consumption.

Shortage of material still keeps us far behind the demand for these units, but we are making every effort to catch up. Meanwhile, whenever you can get a Servel Supermetic, install it for your most critical customer. He'll become a booster.

Home freezer by courtesy of R. H. Bishop Company of Champaign, Illinois, manufacturers of home freezers since 1928. The Electric Refrigeration Division of Servel, Inc., manufactures condensing units only. These are available through prominent distributors and fixture manufacturers in all sections of the country.

Servel offers three sizes of *Low Temperature* fractional horsepower steel case Supermetic units. Model L2B, shown below, is widely used on popular sizes of ice cream cabinets, food freezers and similar applications.



Servel Inc.

ELECTRIC REFRIGERATION DIVISION, EVANSVILLE 20, INDIANA

CHIEF ENGINEER WANTED

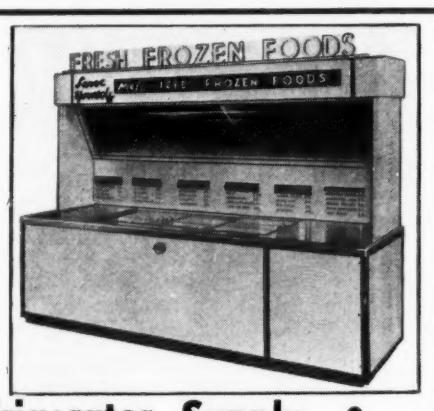
Exceptional opportunity available now to a man with broad experience in water cooler manufacturing. Must have a thorough knowledge of designing, production and testing. Liberal salary, commensurate with qualifications.

Please submit full details. Box 2216, Air Conditioning & Refrigeration News

PINOCCHIO FREEZERS

Pinocchio Lock and Hinge models in 10-15-20-30 and 40 cubic foot capacities, also glass tops in 15-20 and 30 Cu. Ft. Self-Contained and Remote—with and without Canopies. Immediate Delivery—Write for Prices.

Glass Top Model→



• **Complete Refrigerator Supply** •

92 - 7th Ave., New York 11, N. Y.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

States today is proof of it. The new deal is dead and the bones are falling apart. The disintegration is taking place before the unbelieving eyes of millions who have marched uphill and down and through the sloughs of chaos itself behind the most seductive cadenzas that ever a Pied Piper piped. The piper is gone and that pipe is forever stilled. But the chaos is on every hand.

"Henry Agard Wallace has whittled him a willow whistle and is vainly tweetling in the underbrush. CIO-PAC is valiantly passing out tin horns hither and yon. Organized labor has fife-and-drum corps all over the country, but they are wrapping their fifes around each other's necks and crowning management with bashed-in drums. And the chaos multiplies with the din.

"You ask what is wrong with the stock market? That's easy—it has the New Jerusalem jitters, the same as the rest of the country has. You don't believe it, Mr. Liberal? All right, where are you getting your steak, or your bacon, or your new car, or your house paint, or your winter suit of clothes?

"The New Jerusalem promised freedom from want, freedom from fear, freedom from this and freedom from that. But everybody is scared of tomorrow. You're scared yourself and you don't know why. Don't you really know? It's simple. You're scared because you can't turn on your radio and listen to somebody tell you what to do. The voice of the New Jerusalem is gone. And New Jerusalem is working up like home-brew in old bottles. It's popping all over the place.

"New Jerusalem never was run according to the rules. The rules were the newest part of it, anyhow. Fresh rules every time there was a fireside talk. Fresh rules to win the game and throw out the umpire—that was the psalm of psalms in the New Jerusalem that got old and fell apart.

"America has forgotten all about rules, but it remembers the part about throwing out the umpire. The striking seamen remembered it, so they threw out the umpire and won. Who do you suppose it was that threw out OPA? The people did. OPA comes back and is being thrown out again.

"Henry Wallace is not a great and ominous first cause—he is just a symptom—just a bubble on the homebrew of improvised lawlessness and insubordination to law and constitutional authority. The head of the new deal himself regarded it as a revolution. And his understrappers regarded themselves as inspired and bloodless Dantons and Robespierres and Lafayettes. Wallace still dreams of the revolution. That is why he loves the Russians who operate with the torture chamber and the firing squad. That is why he distrusts the British New Jerusalem sans regicides.

"But revolutions won't make automobiles very well. Revolutions won't cut down trees for sawmills and work them up into lumber and finally into homes and places of business and steady employment. No work for more pay defeats itself. When labor bulldozes management you get ill-management or no management at all. A subsidized farm soon comes to regard subsidy as the most important crop. A legislative endeavor devoted to giving everybody special privileges winds up with privileges for nobody and chaos for all.

"The really encouraging thing about chaos is that it won't work. And higher wages for not working soon bring the blinding realization that higher wages that won't buy anything are too something or other. A pocket full of wages on the outside of a butcher's showcase with no bacon on the inside is bulging, jingling proof that the prophets of the New Jerusalem have been gargling empty words, after all.

"If a thing won't work, it won't work. Well, brother, look around you. Is Chaos Unincorporated meeting your needs? Is this the life of Reilly? Is this the social security of a thousand microphone serenades now silent forever? Is this the freedom from what-have-you for which you yearned to the twitter of the rhymic pipe of yore?

"If you want a living that is a real living, you are going to have to root for it, Mr. Common Man. The Great White Father at Washington just now doesn't know who's Secretary of State. He's lost the combination to the Horn of Plenty. He's busy with the election returns from Missouri.

"It is sad to learn that we have to work for what we wear. The five-day week in the stocking factories doesn't make enough stockings to go around. The five-day week in the steel mills and mines and on the railroads doesn't give us enough fenders for our automobiles, nails for our houses or girders for our skyscrapers. The whole country has gone to loafing. And everybody you see is short of something that more work at the right place would supply—you among the rest of us and all of us along with you.

"Things do not add up. We go into a world war and burn up billions of dollars' worth of our goods, blow up and destroy trillions of dollars' worth of lives and factories abroad and then come out with half-starvation, half-nakedness and utter homelessness for millions upon millions of the earth's people. And our remedy for that is to work less than we ever did before or to quit work altogether in the mad expectation of getting a greater share of what we refuse to help produce.

"Here, ladies and gentlemen, is your New Jerusalem with its leisure, its security, its joy and its blessed peace of mind. How do you like it? Arise, ye sons and daughters of liberalism, and take arms against your sea of disillusionment. If the five-day week produces too little, let's raise everybody's wages and quit work altogether. Sixty million jobs with nothing to do, nothing to eat, nothing to wear—we can have our New Jerusalem yet."

The application of this definition to 'Superior' tubing is substantiated by the amount of orders (both filled and unfilled) at Penn Brass & Copper Company.

Making 'Superior' products is a tradition at Penn and from the size of the cheering section we find we have made a lot of new friends.

'Superior' is better for it is Dry, Clean and Bright, Seamless and Easy Bending.

Everyone at Penn has a flare for making a better tube - - this also is a fact. Write today for colorful circular entitled "After The Pressure Is Off."

READY FOR IMMEDIATE DELIVERY

PAPCO =400

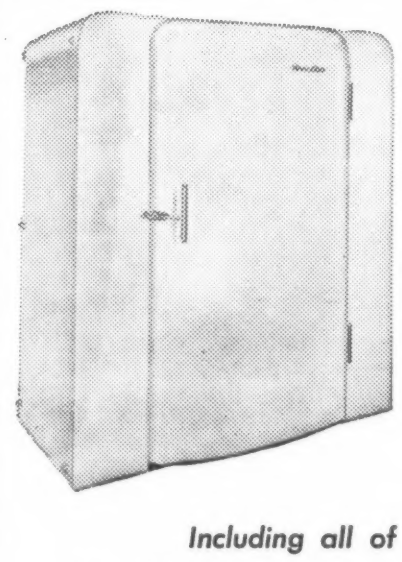
The fast flaring tool that the entire industry is talking about. Send for latest bulletin.

PENN BRASS & COPPER CO.

ERIE, PENNSYLVANIA • *Phone 35-111*

"Cash In"

ON CONSUMERS DEMAND FOR QUALITY WITH THE SENSATIONAL



Strata Aire

FARM & HOME FREEZERS

Including all of these features:

Fast Freezing	24-100 cu. ft. Models
Inner Doors	Can Be Moved Through Any
Full Circulation	Standard Door

•

Immediate Delivery

•

Distributorships Available

•

Strata Aire, Inc.

266-278 S. MAIN ST. RITTMAN, OHIO

Supply Firms See End of 'CC' Priorities as Boon To Handling of Orders

NEW YORK CITY—Manufacturers of plumbing and heating supplies and contractors' supplies were deluged with orders last week following the termination of the broader provisions of the CC priorities system, but the manufacturers held out little hope that ending of priorities would mean that more goods would be readily available.

"What the industry needed was something that would help step up production, not a means of limiting distribution," one spokesman said.

For plumbing and heating supply houses the end of priorities was hailed as taking a load off the backs of management and employes of the supply houses. Time will be saved in the order department, quotation department, and billing department, one local jobber said, and salesmen will not have to spend most of their time questioning customers about the right to buy.

Priority ratings of the CC class will be issued from now on in a few limited cases, most of which will have little effect upon regular business establishments. They will apply only (1) where an item is needed to provide essential utility services or, in an emergency, to eliminate serious hazard to the life, safety, or health of a large number of people; (2) items essential to national defense; (3) special assistance for all exports that are essential for reasons of public policy.

Ratings discontinued included CC ratings for production materials; maintenance, repair, and operating supplies; capital equipment or construction materials; or equipment for the purpose of starting or maintaining any individual plant or business, or to alleviate individual hardship; or to aid small business firms or returned servicemen.

T. C. McKee, Head of Midwest Co., Is Dead

CHICAGO — Thomas C. McKee, president of Midwest Engineering & Equipment Co. here, died recently. He was 70 years old.

Mr. McKee had been associated with Midwest since 1922. For the preceding five years, he was manager of the Chicago office of Carbondale Machine Co., which he joined in 1901.

Mr. McKee was a life member of the American Society of Refrigerating Engineers and a charter member of the Chicago section, serving as its chairman during 1921-22. He was also a member of the American Society of Mechanical Engineers, Chicago section, and past chairman of the Refrigerating Machinery Association of Chicago.

Surviving are his widow, Hortense; a daughter, Mrs. Frances Main; and a son, Thomas C. McKee, Jr.

F.J. Kleman, Ex-Mollenberg-Betz Engineer, Dies In Buffalo, N.Y.

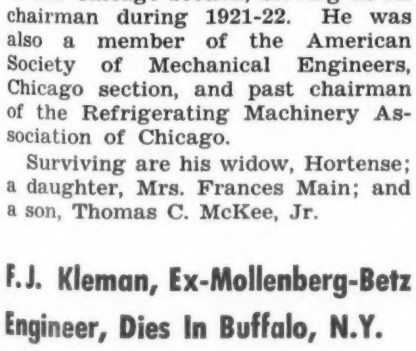
BUFFALO—Fred J. Kleman, 73, an engineer for 20 years with the Mollenberg-Betz Machine Co., manufacturer of air conditioning machinery, died at his home recently. More recently he had been an engineer in the water division of the Department of Public Works here. Six sisters and a brother survive Mr. Kleman.

Certified

BY A QUARTER CENTURY OF REFRIGERATION KNOW-HOW

Plan your automatic refrigeration installations for a triple advantage: Proved performance, low first cost, low maintenance cost. LIPMAN machines for dependable service in any field of commercial refrigeration are the result of more than a quarter century of manufacturing know-how. Let LIPMAN serve your needs profitably!

GENERAL REFRIGERATION DIVISION



St. Louis Commercial Dealer Keeps Name Before Public with 15-Minute Radio Record Program

ST. LOUIS — Proctor Sales Co., commercial refrigeration dealer here, recently started sponsoring a radio record program. Richard Proctor, owner of the firm, admits the program will affect business very slightly due to the commercial nature of his equipment which would be of little or no use to the majority of people who will be listeners.

"But I feel that no company should ever turn down the opportunity to keep their name in the public's eye," Mr. Proctor stated. Proctor Sales are distributors for Ideal and Bevco products.

The program which has been on the air since the first of November, occupies the 11:05 to 11:20 spot on Station KXOK every Sunday night. One of the announcers from the station handles the job of disc jockey. Proctor's choice of this type of popular music program was effected by the extreme popularity this type of program is enjoying today.

There are three spot announcements during the 15 minute period. One is one minute long during the middle of the program and the other two are 30 second spots at the beginning and end of the show.

Mr. Proctor, who also operates a number of Wurlitzer phonographs, named the show, "Whirl With Wurlitzer." First of the three spot announcements are devoted to advertising phonographs and the next two advise listeners of the equipment in the commercial refrigeration lines which Proctor has available.

2-Day Dealer Meetings Held

JACKSONVILLE, Fla. — Conditionaire, Inc., 1328 San Marco Blvd., here recently conducted a two-day instructional meeting for 35 Florida and Georgia dealers of G-E air conditioning equipment. According to C. H. Denniston, sales manager, factory representatives served as instructors.

Louisville Heating Firm Starts

LOUISVILLE, Ky.—Capitalized at $30,000, Louisville Heating Service, Inc., has been granted a charter to deal in heating and refrigerating equipment.

Walter Opens Commercial Mfr.'s Agency on Coast

HOLLYWOOD, Calif. — Formation here of C. G. Walter & Co. to function as a manufacturer's representative in California for commercial refrigeration equipment is announced by C. G. Walter, formerly associated with Ward Refrigerator & Mfg. Co. The firm is located at 5060 Ambrose Ave.

Connected with Ward for five and one-half years, Mr. Walter established its dealer organization in California. During the war, he handled the concern's business relations with the U. S. Navy, which in reach-in refrigerators alone is said to have amounted to more than 4,000 complete units.

Mr. Walter has been engaged in the merchandising of electrical appliances in this state for the past 23 years. During the last 11 years, he concentrated exclusively on commercial refrigeration and air conditioning, being associated with Gough Industries (formerly Listenwalter & Gough) as wholesale manager for the Kelvinator commercial department, with Refrigeration Distributors as wholesale manager of the utility line, and with Ward.

Bryant Heater Co. Names Dow Promotional Mgr.

CLEVELAND — Appointment of Paul H. Dow as sales promotion manager of Bryant Heater Co. is announced by James N. Crawford, vice president in charge of sales.

Mr. Dow will work with the expanded Bryant distribution organization in merchandising the company's line of gas-fired heating equipment.

Mr. Dow comes to Cleveland from Dayton, where he has been associated with the Airtemp Division of Chrysler Corp., in charge of public relations and dealer relationships. He had previously been with the General Electric Co.

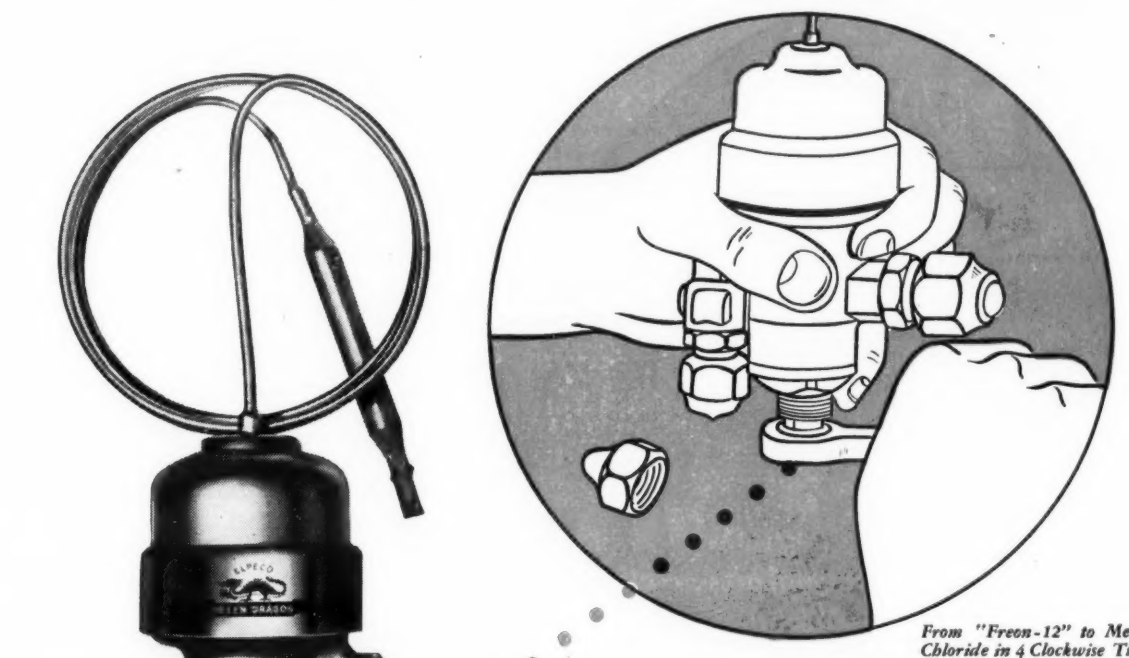
Thomas Farrell Takes Post With New Ford Subsidiary

DETROIT—Dearborn Motors Corp., new Ford subsidiary here, has named as vice president Thomas A. Farrell, former assistant general sales manager of Kelvinator division, Nash-Kelvinator Corp.

The new subsidiary, which will begin operations in June, was organized to sell Ford tractors and farm implements.

THIS ELPECO THERMOTRON

CONTROLS EITHER "FREON-12" OR METHYL CHLORIDE



From "Freon-12" to Methyl Chloride in 4 Clockwise Turns

MODEL "AT" Adjustable Thermostatic Flow Control

INCREASES VALVE USABILITY 100%

• When you make a service call involving control valves—four Elpeco THERMOTRONS will cover your needs. This means you can increase your valve usability 100% with THERMOTRONS. Also, less investment is needed.

The reason is in the design of the Model AT adjustable thermostatic Flow Control. Four clockwise turns of the adjusting stem changes a "Freon-12" valve to one for methyl chloride. The adjustment is simple and always the same. Installation is quicker because you have no parts to purchase or replace to get the proper capacity.

The table gives the capacity of the adjustable THERMOTRONS for "Freon-12" and methyl chloride. It shows how easily they can be selected.

Your selected Elpeco wholesaler has Thermotrons in stock to help you with your control valve needs. Save time and money by standardizing on the Green Dragon line.

THERMOTRON CAPACITIES

TYPE	LIQUID TEMPERATURE THERMOTRON OUTLET DEGREES FAHR.	REFRIGERATION CAPACITY—TONS "FREON-12" Liquid Temperature THERMOTRON Inlet ° F. 80°	100°	120°	METHYL CHLORIDE Liquid Temperature THERMOTRON Inlet ° F. 80°	100°	120°
AT-25*	—10°	.10	.11	.12	.20	.22	.24
	5°	.13	.15	.16	.26	.30	.32
	20°	.17	.19	.21	.34	.38	.42
	40°	.22	.25	.27	.44	.50	.54
AT-50*	—10°	.20	.23	.25	.40	.46	.50
	5°	.27	.30	.33	.54	.60	.66
	20°	.33	.37	.40	.66	.74	.80
	40°	.45	.50	.55	.90	1.0	1.1
AT-100*	—10°	.40	.45	.49	.80	.90	.98
	5°	.53	.60	.66	1.0	1.2	1.3
	20°	.67	.75	.82	1.3	1.5	1.6
	40°	.90	1.0	1.1	1.8	2.0	2.2
AT-200**	—10°	.83	.93	1.0	1.6	1.8	2.0
	5°	1.1	1.2	1.3	2.2	2.4	2.6
	20°	1.3	1.5	1.6	2.6	3.0	3.2
	40°	1.8	2.0	2.2	3.6	4.0	4.4

* Based on 4° Super-heat change from closed position to fully open.

** Based on 6° Super-heat change from closed position to fully open. Inlet liquid at saturation temperature and vapor-free.

ELPECO GREEN DRAGON

ELECTRIC POWER EQUIPMENT CORP., 412 North 18th St., Philadelphia 30, Pa.

THE GREEN DRAGON LINE

THERMOTRON —flow control

UNITRON —unit cooler

CUBETRON —ice cube maker

CAPACITRON —capacity booster

EXOTRON —condenser

CONDENSOTRON —condensing unit

THERMEK —heat transfer surface

They'll Do It Every Time . . . . By Jimmy Hatlo

OH, EUSTACE! GOING TO LUNCH? SAY-HEH-HEH- WHILE YOU'RE OUT, WOULD YOU SAUNTER AROUND TO THE RAILROAD STATION AND PICK UP THESE TICKETS FOR ME? THANKS. I'LL SEE YOU BACK HERE AT ONE, HEY!
I LIKE THAT "SAUNTER" THE STATION IS A MILE ACROSS TOWN--- BUT I DIDN'T HEAR ANYTHING ABOUT A TAXI-
IT'S A 24-HOUR-A-DAY JOB, WORKIN' FOR HIM --- BUT HE THINKS OVERTIME IS FATHER TIME'S MOTHER-IN-LAWR!
HURRY UP BEFORE BIGDOME THINKS OF SOME WAY TO SPOIL MY LUNCH... LIKE GETTING HIS KID'S BICYCLE REPAIRED
I'D LIKE TO GET HIM A RAILROAD TICKET...ONE WAY TO ALCATRAZ!
HE MAY BE A BIG MAN AT HOME, BUT THE BOSS TREATS HIM LIKE AN ERRAND BOY- Phanx TO S.F BERGER, 211 NO. 7TH, ST. LOUIS, MO.
JIMMY HATLO
11-7
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Out With Special Privileges - - Revise the Wagner Act!

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DIVISION OF CHRYSLER CORPORATION

Leadership Based on Quality Products

Constant product research and advancements, outstanding laboratory staffs and facilities, Chrysler Corporation engineering and quantity production skill—all bring a high degree of dependability and public acceptance to Chrysler Airtemp products. In three important fields—heating, air conditioning, and commercial refrigeration—the name Chrysler Airtemp is the buyer's assurance of quality design and outstanding performance. There's a dealer agreement for 1, 2 or all 3 Chrysler Airtemp lines. For full information about this opportunity, write Airtemp Division of Chrysler Corporation, Dayton 1, Ohio; in Canada—Therm-O-Rite Products, Ltd., Toronto, Ontario.

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HEATING • AIR CONDITIONING
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No Saturation In Sight

BUSINESSMEN engaged in the manufacture and sale of household appliances can smile with pleasure while they view America's population trends—both current and those projected for the next few years. These upward trends are truly amazing.

With the present birth rate ringing an all-time high, and new families branching out to the number of 1,000,000 per annum (exactly twice that of prewar years), the future assumes a rosy glow for those businessmen who are engaged in supplying articles needed in homes.

At the present moment, 29 children are being born yearly to every 1,000 adults, in comparison to a prewar average of around 18. Not only are the newly married couples bearing offspring, but more children are being born per family.

This situation, in addition to the undoubling of so many families which squeezed together during the war, merges into an immense mass market for household goods.

There are two important reasons for this current population increase: the return of millions of servicemen from the war; and a general wave of prosperity. Census returns always have insisted that the birth rate rises simultaneously with prevailing high income levels.

More jobs and more money mean more marriages and more births. More families mean more home units. And more home units mean more home appliances—yes, and more commercial refrigeration, too!

The United States population is expected to reach a peak of about 165 million around 2000 A.D. So, during the ensuing years, there will be a lush market for baby supplies, later fading into items needed by older children, and, ultimately, for adolescents, in the early half of the 1960 decade. Consequently, the later 1960 and early 1970 market will be catering to this enormous group of young men and women.

Designers of specialized products please note.

A difficult problem resulting from the present big batch of births will be the urgent need for more schools and teachers. Already jammed to capacity, the present school system will need to be expanded considerably to accommodate the future increased bulk of students. Further weight is thus lent to the cries of teachers for more pay—another serious problem.

Universities will feel this push during the 1960's, when college attendance—already bursting at the seams—is expected to swell to tremendous heights. This continuing rise in enrollments in institutions of higher learning will be due not only to the GI onslaught on colleges, and the fact that parents who have attended college invariably strive to provide an equivalent education for their children, but also to the upward pressure of the zooming population curve.

So, household merchandisers, be of good cheer. You have a veritable gold mine in your front yard.

During the 1930's that plausible popularizer of half-baked economic fallacies, Stuart Chase, convinced altogether too many people that America had reached "economic maturity." It could progress no further, he argued, because: (1) there were no new land "frontiers" to settle; and (2) our rate of population growth was declining instead of going uphill. Thus, he reasoned, our only hope of salvation was to divide the economic pie into smaller pieces—*giving* more to the lazy and untalented, *taking* more from the hard-working and ambitious citizens.

Chase's first premise—"there are no new frontiers"—overlooked the rapidly expanding *scientific* frontier, the discoveries which lead to new products and industries, and the creation of new jobs. His second thesis—the expected population decline—has been exploded by today's realities.

This is no time to worry about market saturation. Our markets are enlarging, and will continue to expand gratifyingly in the years to come.

Norge Completes Two Decades

Norge's 20th anniversary was commemorated recently at a special ceremony when President Howard E. Blood (left), received a bronze plaque from M. G. O'Harra, vice president. The award was a replica of the firm's "Rollator" refrigerator compressor.

2 Unrelated New Firms Emerge As 60-Year-Old Merkel Bros. Dissolves

CINCINNATI—Dissolution of The Merkel Bros. Co. here, wholesale distributor of plumbing, heating, and refrigeration supplies, and division of its business into two unaffiliated firms operated by former employes were announced recently.

The refrigeration division has been moved to 901 Broadway where it now is being operated as Merkel Bros. Refrigeration Parts. Lewis F. Merkel, son of Louis J. Merkel, former president of Merkel Bros., is sole owner.

Business of the plumbing and heating division has been taken over by Merco, Inc., 525 W. Seventh St. Merco was organized for this purpose by Louis Adam, James J. Tighe, and Edwin F. Sullivan.

Four other former Merkel Bros. employes are associated with the new refrigeration parts firm, while the remainder joined Merco. The changes were effective Jan. 1.

In a statement issued prior to the move, Merkel Bros. said it would not be interested in either new organization "financially or otherwise." Reason given for dissolving the company was that after more than 60 years in the business, the principals "have decided to retire."

Walter Thiel Store Sets Up As Dealership In Wisconsin

CLINTONVILLE, Wis.—The Walter Thiel electrical sales and appliance store has been opened at Clintonville. Gibson electric ranges, refrigerators, and home freezers will be featured, and farm equipment, electrical and other, will be handled.

'47 Shortage of Finished Steel May Hit Several Million Tons, Says CPA

WASHINGTON, D. C.—A shortage of several million tons of finished steel for 1947 was predicted recently by the Civilian Production Administration if all distribution controls are removed.

Barring major work stoppages, CPA officials predict production of approximately 60,000 tons of steel in 1947, with unrestricted distribution reaching an estimated 66,000,000. Estimated steel shipments for last year were about 50,000,000 tons.

Steel industry members are said to have recommended to CPA officials at a closed meeting that all priority programs, including housing orders, be ended. The industry representatives assured CPA that if this recommendation is followed the industry will be able to meet nearly all demands.

Shortages of coke and scrap were cited as possible hindrances to full production of steel.

300 Members of Sales Staff Set to Attend M-H Convention Feb. 3

MINNEAPOLIS — More than 300 members of the sales staff of the Minneapolis-Honeywell Regulator Co. are scheduled to meet in Minneapolis the first week in February for the largest sales convention in the 61-year history of the company.

Representatives from all Honeywell branch offices in 53 United States cities, from Canada, and abroad will assemble for the three-day meeting starting Feb. 3 at the Nicollet hotel, said Thomas McDonald, vice president in charge of sales.

"We believe that the day of the salesman is just around the corner," Mr. McDonald said. "When that day comes, factory and office people will once again depend upon the efforts of good salesmanship to keep the wheels turning and provide jobs, so we are holding this convention of our key sales personnel to get ready for the buyers' market which we believe will be a major market factor before the year is over."

Scheduled speakers include Mayor Hubert Humphrey of Minneapolis, all members of the company's board of directors and other Honeywell officials. A number of new products soon to move onto the production lines will be introduced and regional and company wide sales quotas announced and explained.

A special train will leave New York City Feb. 1, connecting with another special in Chicago the following day. Because a number of the men attending the convention had not been in Minneapolis for many years and therefore had not seen the three-fold expansion of Honeywell's facilities since 1941, plant tours and other events are planned to illustrate the company's growth since the war.

Mr. McDonald emphasized that it soon would be the responsibility of the sales forces to keep the plants busy because production is cutting down the backlog of demands.

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NEW PROFITS FOR YOU

Sell Froz-n-Food Lockers. They're the preferred lockers that assure you more profits. And, at the same time, bring customers complete satisfaction. Note their many special features, such as: glide-easy drawer action, long lasting steel construction, beautiful two-tone finish, drawer units shipped factory assembled — these and other features mean a quick selling line, a profitable line.

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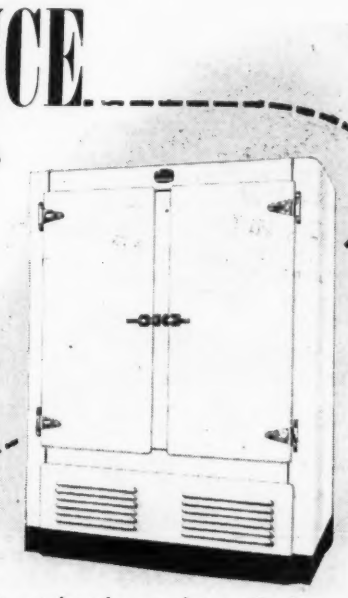
Recognized as quality products SHERER Reach-in Refrigerators will continue to be built to the same high standards that have earned them their present outstanding position in the industry.



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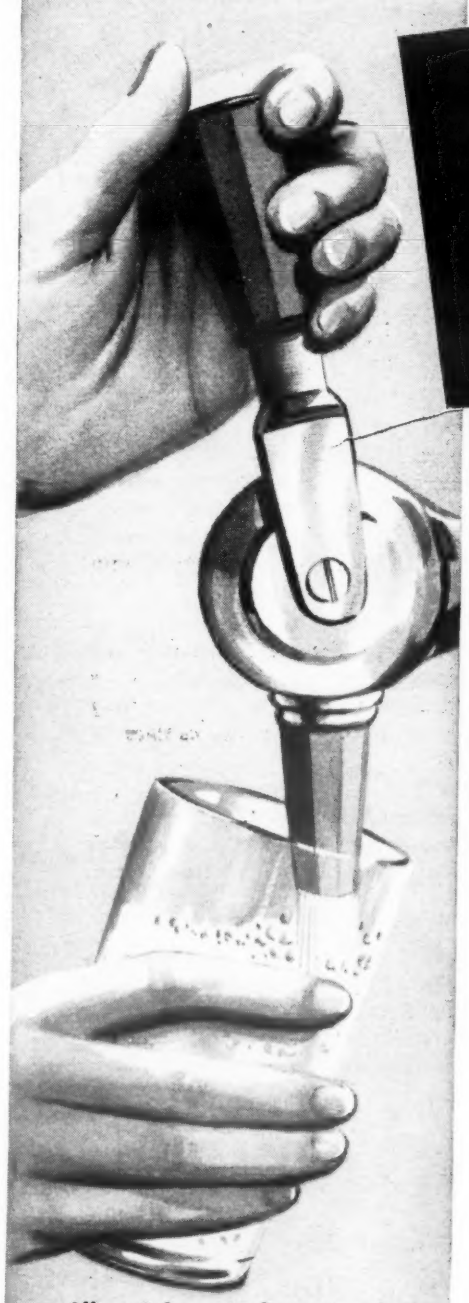
5620 glasses of highly carbonated water produced from single 20 lb. tank of CO_2 gas



• All stainless steel construction.
• Independent of city water pressure.
• Operates at 70 lb. CO_2 gas pressure.

...WITH THE NEW Temprite COOLER-CARBONATOR

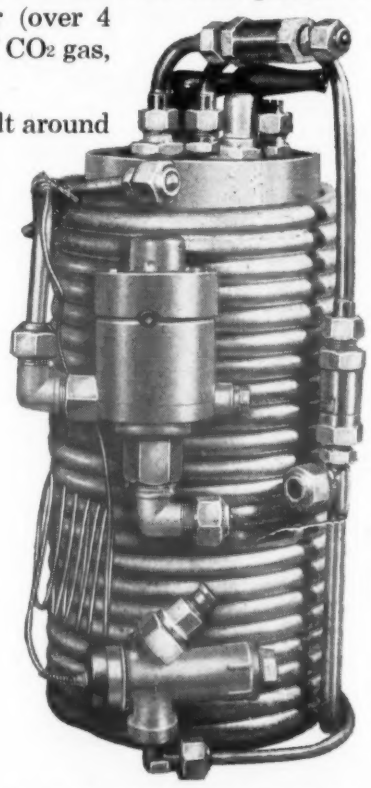
Latest Temprite development is the sensational *Combination Cooler-Carbonator* . . . which actually delivers over 5620 glasses of sparkling, highly carbonated water (over 4 volumes) from one 20-pound tank of CO_2 gas, *at a constant 40° temperature.*

The fact that the water cooler is built around and is an integral part of the carbonator itself, has not only resulted in an extremely compact, space-saving unit, ideal for all types of installations, but offers the user *maximum carbonation at the lowest possible CO_2 gas pressure . . . without waste of CO_2 gas.*

The new Temprite system, when connected to a ⅓ H. P. condensing unit, can dispense over 300 glasses of either plain or carbonated water per hour (or any proportion of each that may be required) reducing the temperature from 80° down to 40° F.

The Temprite cooler-carbonator package includes all necessary valves, checks and fittings, assembled to the carbonator, together with the motor, pump and relay assembly . . . *ready for immediate installation.*

Carbonator is available separately . . . wherever a satisfactory water cooling system is already in use.



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Veteran Flyer Turns to Plane for Quick Hops On Service Calls

PHOENIX, Ariz.—Vying for honors as a pioneer flying service man is J. L. Lawson, proprietor of Lawson Refrigeration Co. here. A flyer since 1919, Mr. Lawson recorded his first flying service trip on Dec. 1, 1943, when he flew from Phoenix to Welton.

Mr. Lawson, who has been in the refrigeration business in Arizona since 1926, feels that the increase of air service, available because of the greater number of airports, will save users of refrigeration costly delay in repairs and traveling time charges.

Warren H. Siekman, sales manager of the company, says that Mr. Lawson's trips have become so well known among their Frigidaire customers in remote areas, that they have been no small factor in influencing customers to install commercial jobs. Thus, he continues, this rapid air service has stimulated new enterprises using refrigeration installations.

Aman and Buchanan Set Up New Service Establishment

JACKSONVILLE, N. C. — A new refrigeration and electrical service firm, known as George's Services, has been established on Marine Blvd. here, announce George Aman and George Buchanan.

The owners are members of the Refrigeration Service Engineers Society.

Servicing Truck Refrigeration Units

Editor's Note: Further steps in the servicing of the reverse cycle Trailaire truck refrigeration unit are outlined in this instalment, which tells how gauges should be installed in preparing to pump down the unit for making repairs to the evaporator, expansion valve, and other components of the upper compartment. The series was prepared in collaboration with Henry O. Kirkpatrick, chief engineer of Advance Mfg. Co., producer of the unit.

Instalment No. 18

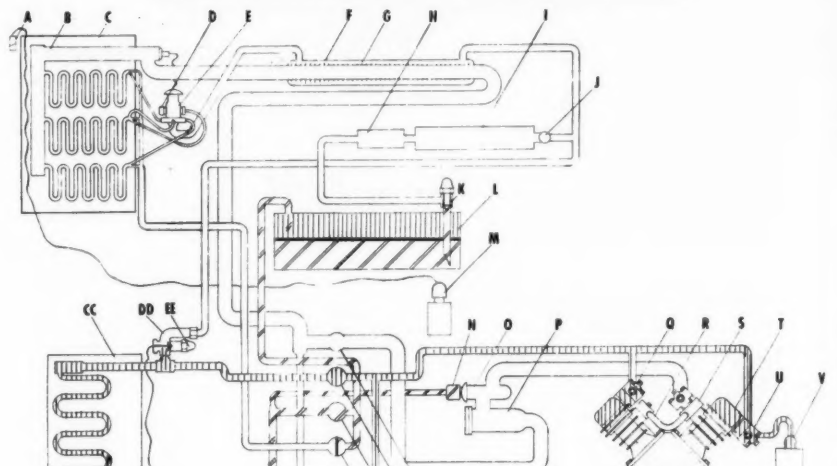

A B C D E F G H I J K L M
CC DD EE
N O P Q R S T U V
W X Y Z AA BB
HIGH PRESSURE VAPOR
HIGH PRESSURE LIQUID
LOW PRESSURE VAPOR
LOW PRESSURE LIQUID
OIL
ATMOSPHERIC PRESSURE
PUMP DOWN EVAPORATOR (UPPER COIL)

Fig. 23 shows the various states of refrigerant in the Trailaire unit when the evaporator (C) is pumped down.

Key to drawing: **A**—thermostat bulb; **B**—evaporator suction header; **C**—evaporator coil (upper); **D**—expansion valve adjusting stem; **E**—multi-outlet thermostatic expansion valve; **F**—heat exchanger; **G**—heat transfer fins; **H**—liquid line strainer; **I**—dehydrator; **J**—liquid indicator; **K**—receiver service valve; **L**—receiver tank; **M**—thermostat temperature control; **N**—load limiting valve bellows; **O**—suction load limiting valve; **P**—suction line strainer; **Q**—compressor discharge service valve; **R**—compressor suction manifold; **S**—compressor suction service valve; **T**—compressor; **U**—compressor discharge service valve; **V**—high pressure cut-out; **W**—hand valve suction (cooling); **X**—hand valve discharge (cooling); **Y**—hand valve liquid return (cooling); **Z**—hand valve liquid return (heating); **AA**—hand valve discharge (heating); **BB**—hand valve suction (heating); **CC**—condenser coil (lower); **DD**—thermostatic expansion valve; **EE**—thermostatic expansion valve adjusting stem.

* * *

To remove any part of a refrigeration system it is first necessary to remove the refrigerant from the particular part to be repaired. This, naturally, applies to the reverse cycle Trail-Aire truck unit. Because it is a reverse cycle system, moreover, the Trailaire unit can be pumped down in four different ways, that is, the refrigerant can be pumped into four different parts of the system, leaving the rest at atmospheric pressure so it can be worked on without danger of losing refrigerant.

Fig. 23, for example, shows the state of the refrigerant when the evaporator or upper coil (C) has been pumped down. When the unit has been pumped down in this manner, repairs can be made to the upper coil (C) and several other components of the system, or they may be removed entirely. These additional items include:

1. The multi-outlet thermostatic expansion valve (E).
2. Heat exchanger (F).
3. Liquid line strainer (H).
4. Dehydrator (I).
5. Liquid indicator (J).
6. All lines in the upper compartment.

Pumping down is done by the proper use of the service valves in the system. It is also necessary to use an accurate set of gauges—a high pressure gauge reading from 0 to 300 lbs. per sq. in. and a compound gauge registering from 30 in. vacuum to 150 lbs. per sq. in.

Special care must be taken by the service engineer in pumping down the system to prevent air being drawn into the system and refrigerant being lost.

Installing Gauges

1. Clean all dirt and oil from the compressor service valves (S) and (Q).

2. Remove caps from compressor suction service valve (S) and compressor discharge service valve (Q).

3. Make certain that both valve stems are turned all the way out counter-clockwise so that they will be backseated.

4. Remove the ⅛ in. pipe plug from the suction service valve (S) gauge port.

5. Remove the ⅛ in. pipe plug from the discharge service valve (Q) gauge port.

Note that there are two ⅛ in. pipe plugs in the discharge service valve (Q). The plug nearest the stem end of the valve is the gauge port plug. The other port is not closed off when the valve is backseated.

Gauges with ⅛ in. male pipe threads may be screwed directly into the gauge ports, or fittings may be used to connect a gauge manifold assembly.

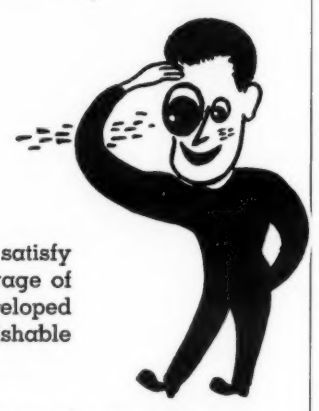
6. Install the compound gauge (30 in. vacuum to 150 lbs.) in the gauge port of the compressor suction service valve (S).

7. Install the high pressure gauge (0 to 300 lbs.) in the gauge port of the compressor discharge service valve (Q).

8. Turn the stem of the suction service valve (S) one-quarter turn in (clockwise) to get the compound gauge reading.

9. Turn the stem of the discharge service valve (Q) one-quarter turn in (clockwise) to obtain the high pressure gauge reading.

ear to the ground . . .



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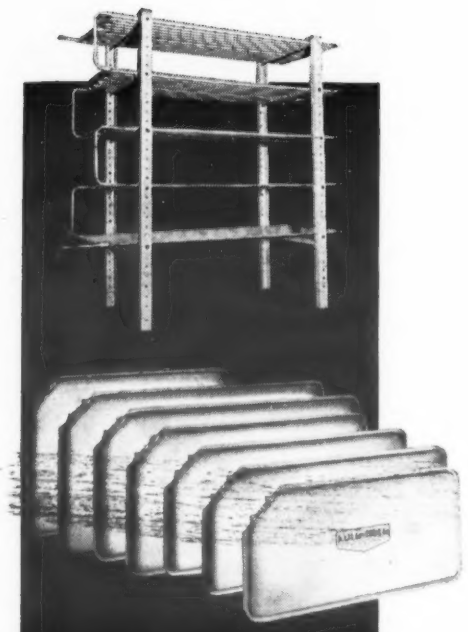

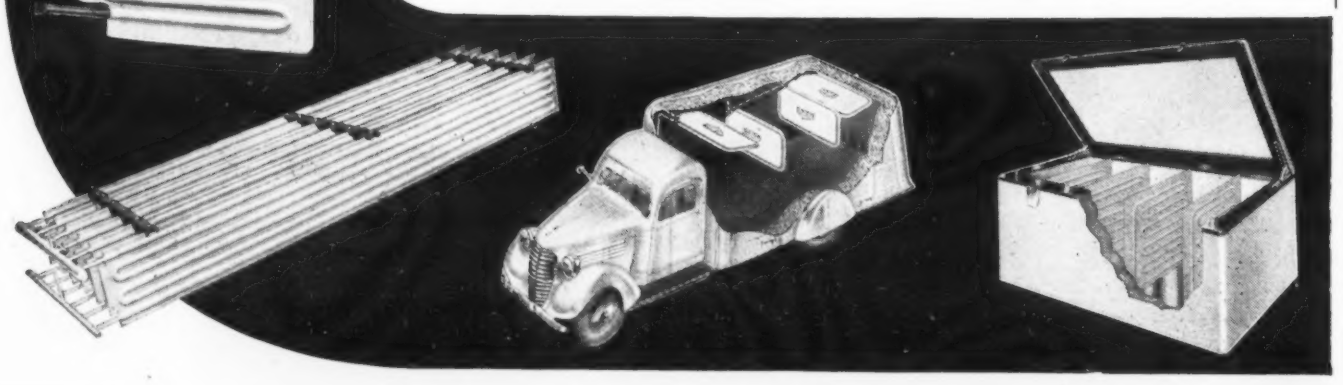

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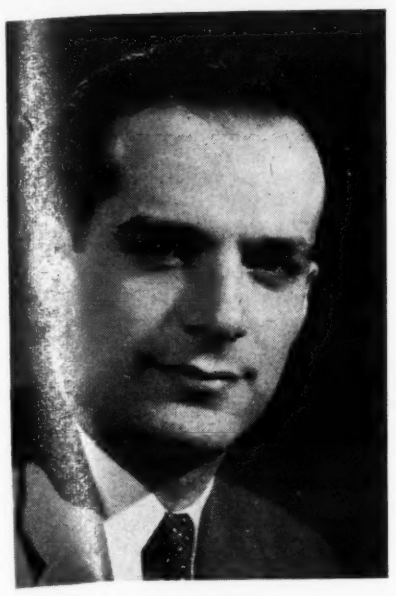
Fedders-Quigan Creates New Condenser Division



A. J. DeFINO

* * *

BUFFALO—Newest evidence that Fedders-Quigan is expanding its divisional sales program is contained in the announcement that A. J. DeFino will be sales manager of the newly created condenser division. This appointment came hard on the heels of an announcement by Fedders that E. A. Bonneville would head the refrigeration and unit air conditioner divisions (NEWS, Dec. 23).

Commenting on the expansion, Edmund R. Walker, vice president, stated:

"Addition of new products such as unit air conditioners for room cooling together with aggressive re-entry into the commercial refrigeration field with postwar designs is the result of an enlarged engineering and laboratory staff and facilities, increased and modernized production equipment, and nationwide sales programs."

Setting up the condenser division as a separate unit will facilitate the handling of contract sales to large household and commercial refrigerator manufacturers, the company said. Mr. DeFino had formerly been serving in the refrigeration division at Fedders prior to his recent appointment. He served as a major in the U. S. Army during World War II.

In the refrigeration and unit air conditioner divisions new products are being added and production stepped up steadily, it is reported.

Other division heads include: C. W. Little in charge of the heating division (manufacturing horizontal and downblow unit heaters); A. F. Ihde in charge of the radiator division (manufacturing automotive radiators and car heater cores); and H. G. Williams in charge of the water cooler division.

Record Nov. Motor Output Puts Nick In Backlog

WASHINGTON, D. C.—Production of refrigeration equipment, household appliances, and home heating units should be materially increased by the 182,000 November increase in the production of fractional horsepower electric motors suitable to these products, to a new postwar peak of 1,157,000 units, the Civilian Production Administration announced.

CPA predicted a dip in December output to around 2,000,000 units because of the shorter work month, but forecast a return to the 2,250,000 production level in January.

Total output of all types of fractional horsepower motors increased 125,000 in November, also to establish a new postwar production high of 2,261,741. The record November output brought the first reduction since V-J Day in the hugh number of unfilled orders for these motors.

While the increased output will aid in alleviating the critical supply situation in fractional horsepower motors above the fleapower size (1/20 hp. and under), CPA said that priority users of the type of motors used for warm air furnaces will require 90 to 95% of the anticipated production of this group during the first quarter of 1947.

Production of fractional horsepower motors during the last three months covered by CPA reports was as follows:

Month	Shipments Units	Unfilled Orders Units
September	1,907,932	39,684,941
October	2,136,840	41,886,662
November	2,261,741	39,767,381

Parts Wholesaler Forms 2 New Corporations To Succeed 'Cessco'

SYRACUSE, N. Y.—Two separate corporations known as Central Service Supply Syracuse Corp. and Central Service Supply Scranton Corp. have been formed to replace the Central Service Supply Co., which under the latter name has operated as a refrigeration and air conditioning parts and supplies wholesaler with outlets in both Syracuse, N. Y., and Scranton, Pa.

Theodore I. Glou, head of the previous firm, is president and treasurer of each of the two new corporations, and Rita L. Glou is secretary.

All personnel of the former concern is being retained, and there will be no change in company policy, announced Mr. Glou, who added that executive offices of both corporations will be located in Syracuse where the firm expects to occupy new quarters in the near future.

ASRE Section Will Hear Talk on Hermetic Motors

DETROIT—Hermetic electric motors will be discussed by B. O. Haun of Emerson Electric Mfg. Co., St. Louis, at the next meeting of the Detroit Section, American Society of Refrigerating Engineers, to be held Monday evening, Feb. 3, at the Rackham Foundation here. Oscar Metz will serve as chairman of the meeting.

Control of Odors Seen As Next Popular Step In Home Air Conditioning

URBANA-CHAMPAIGN, Ill.—Odor control may be the next popular step in home heating and air conditioning, declared Prof. Seichi Konzo at the University of Illinois Conference in Coal Utilization.

"The need for odor control comes both from more tightly built houses and from increasing prevalence of tobacco smoking," he said. "The best solution for reducing cooking and smoking odors is not in opening doors and windows, but in admitting a controlled quantity of warmed air into the room without drafts.

"Proposals have also been made to utilize odor absorbers, sterilizing lamps, and electrostatic precipitating units in home air-conditioning systems. The possible application of these depends upon the initial and operating costs."

Increasing popularity of basementless houses has brought problems of heat loss and moisture condensation on slab floors, whether laid directly on the ground or with a "crawl space" underneath, Prof. Konzo emphasized.

Prof. Konzo, discussing new ideas in heating basementless houses, told of a scheme combining panel and forced warm-air heating. Warm air is sent through channels in the floor, warming it in panel effect, and then released through grills in the baseboard or other edge surfaces for additional warm-air heating.

'CC' Ratings Still Used For Housing, Says CPA

WASHINGTON, D. C. — Those "CC" ratings are still available for producers of critical materials or equipment needed for the Veterans Emergency Housing Program.

Following an amendment by the Civilian Production Administration to its Priority Regulation 28, inquiries about "CC" priorities poured into Housing Expediter Frank R. Creedon's office from all parts of the country. Said he:

"We want to correct any misunderstanding that all priority assistance for housing under this regulation has been dropped. This is not correct. CC ratings will be issued where material or equipment is required to maintain or increase the production of a building material or product which is critically needed for the Veterans' Emergency Housing Program.

"It should be emphasized, however, that no priority tools which can be used to increase production of building materials will be abandoned before such abandonment is warranted. This is in keeping with the President's statement that controls must be relaxed as rapidly as possible, but without threatening the success of the Housing Program."

Fixture Outlet Formed

FORT WORTH, Tex. — Refrigeration Fixture Co. has been incorporated with authorized capital stock of $12,000 by G. C. Bowlin, Joe P. Bowlin, and Lois Bowlin.

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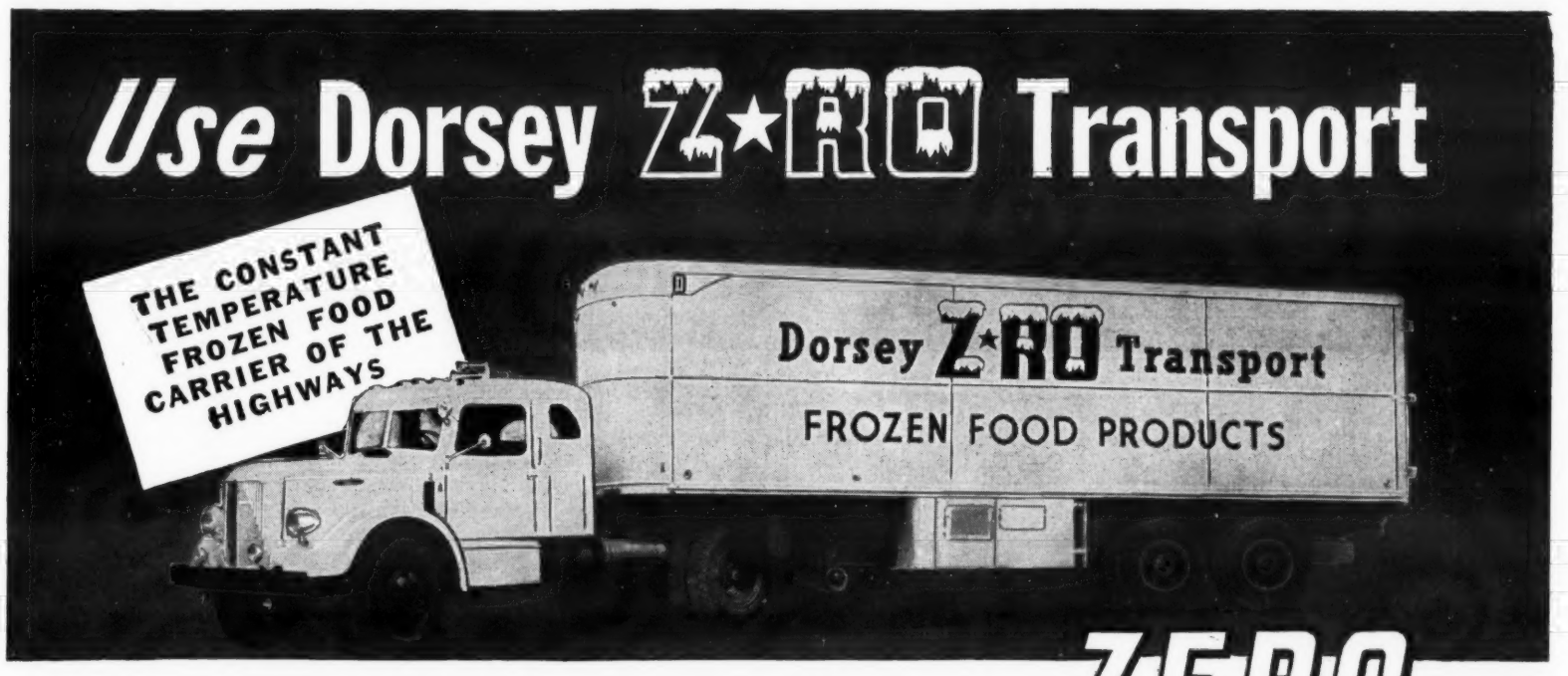

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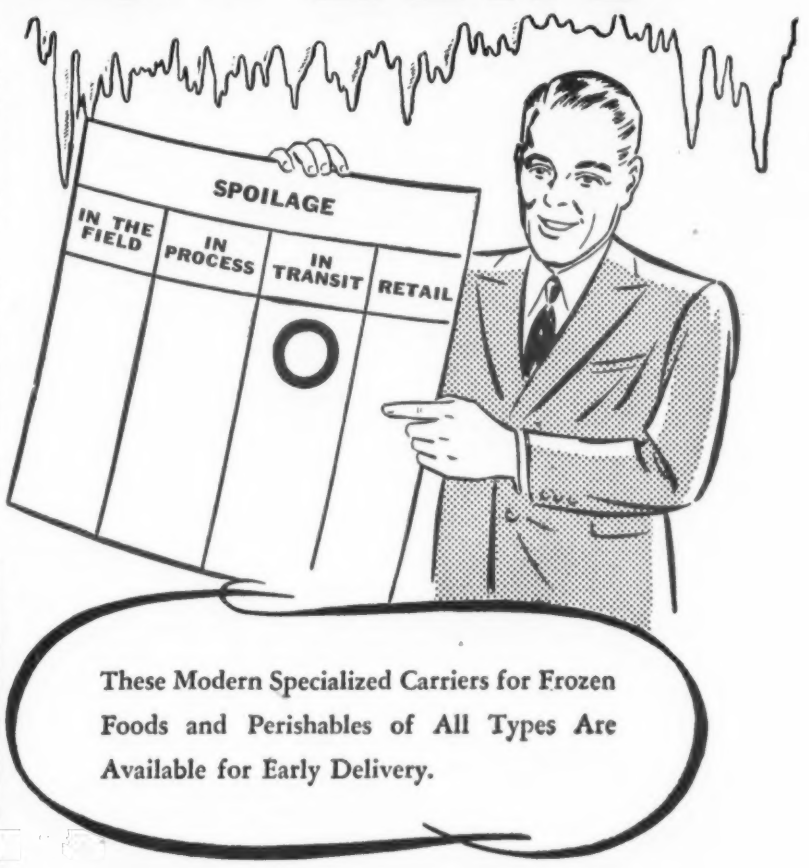

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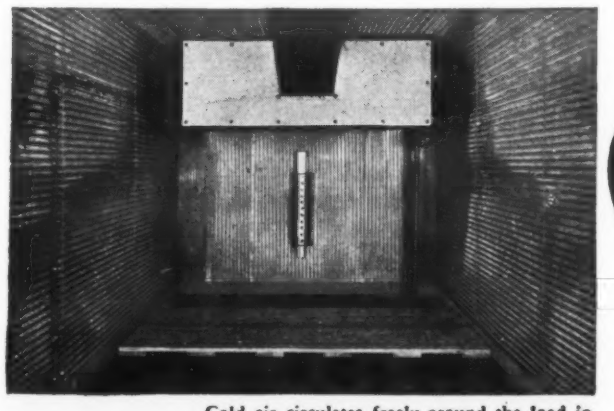

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'Musts' In Major Store Retailing Of Refrigerators Include All-Out Effort on the 'Trade-In' Type Sale

Packard Gives Figures on Replacement Market, Outlines Ways To Handle It

Editor's Note: Following is a slightly condensed version of the talk given by Mr. Packard before the major appliance session at the National Retail Drygoods Association convention. It is a keen analysis of the necessary factors for success in major store retailing of refrigerators, and the part on the replacement market is one of the best pictures of this problem to have come to light since the end of the war.

By Dan Packard, Household Refrigeration Sales Manager, Kelvinator Division, Nash-Kelvinator Corp.

I want to take up the general subject ("Successful Refrigerator Merchandising in Department Stores") today with a very positive statement: "Any department store desiring to can have a successful, profitable electric refrigerator sales operation." Conclusion is based on 15 years of observation of the results of major department stores all over the country.

. . . perhaps it would be well to stop for a moment to justify such a remark in face of your very well known Comptrollers Congress report of the 1930's in which the refrigeration department consistently showed a loss operation. . . . In my opinion, the net of the situation all through the years boiled down to this:

About 25% of the stores reporting figures were consistently showing a satisfactory profit in this department. Another 25% . . . were doing a sufficient volume to show a profit but usually for one or two unnecessary reasons their figures were often in the red.

It was never difficult in the case of this particular 25% to see why it was something that could be readily corrected. In some instances they were spending too much for advertising. In others, too much for supervision or sales expenses. In some cases their overhead charges were too high in relation to the space occupied, and often mark-downs or initial gross was out of line because of the sale of too many specials, or, more often, too many low end numbers.

The other 50% . . . were just not doing a sufficient volume to operate a department at a profit. . . . In most of this group of stores refrigeration was handled but not merchandised. The results could only be a loss operation.

. . . After I made this same statement regarding profits at a syndicate meeting one day a few years before the war, the president of one of the stores invited me to come to his city and look at his figures to see why his department was a consistent loser.

It took about a half hour to find out that 25% of his sales in a previous year had been to his own employes at a 20% discount. There was not much room for blaming initial margins available to stores for his problem. In later years this store increased its volume to a point where employe sales were a minor per cent of the total and profits resulted. . . .

Emphasis and the importance among the various fundamentals has shifted from time to time but basically here are the fundamentals that I believe best bring out the ways a department store can do a successful job of merchandising electric refrigerators:

Get Top Men Interested

The first subject is the matter of *senior executive interest* in the department. In the early days of working with stores where top management were generally soft goods men this was a most important hurdle to get over. Stores seldom got very far . . . until this interest was attained and kept active. On the other hand, stores seldom failed to succeed once such interest was present.

The reason is simple. When your top management is interested, taking an active part in planning the operation, that interest spreads throughout the store . . . and more attention is given to promotion activity and sales campaigns.

On the other hand, when the department remains a "nuisance" to top management, this feeling seems to go all over the store. . . . In these circumstances, it just seems impossible, regardless of the ability of the department manager, to make the operation click.

During the past year you folks responsible for the operation of major appliances in your stores not only have executive interest behind you to the highest point it has ever been, you have it to a higher point than those of us who worked with stores 15 years ago ever dared hope we would see it.

Your job from here on is to maintain this top management interest. . . .

The next fundamental throughout the years has been to have the *right kind of sales management* in the appliance department.

Throughout most of the store, buying is the important problem, while selling has been secondary. In refrigeration the reverse has always been true. Your buying was largely completed when your franchise arrangements were made. . . .

The third item . . . is the *proper location of the department* and *proper displays of the merchandise.*

Here again most of your stores have today . . . gone beyond anything we ever dreamed about before the war. . . . This change cannot help react favorably on your sales volume.

One in 10 To Buy Yearly

If you ever need to impress the importance of this on your management, let me give you a quick formula for doing it. During the last three years before the war—and I am quite sure during the next three or four years—at least one family in ten in your trading area can be expected to buy a new electric refrigerator each year.

This formula may drop to one in eight, and in a five million industry year it would be approximately one in six. It will, of course, vary somewhat between markets.

One in ten is a very conservative figure. Take any one average day's floor traffic your store has and divide it by 10 for an example of how much potential business walks into your store each day. . . .

Next is *steady promotion and advertsing.* Here again a difference between merchandising refrigeration and soft goods is most apparent.

Studies of consumer buying of mechanical refrigerators has shown us that the purchase of a refrigerator is what is classed as a *considered* purchase rather than an *impulse* purchase, so common to most of the rest of your merchandise.

The average family buying a new refrigerator has the purchase under consideration usually for 60 to 90 days before action takes place. During this time they are reading all of the advertising, both national and local.

One Make—or Many?

The next item . . . is the *value of concentration of effort.*

Refrigeration is not only a considered purchase but it is a major purchase for most homes and one which the average home expects to make only once in a good many years. Before they sign up for $200, you can be sure they expect to be convinced by *someone* that they are buying the best value obtainable. . . .

The last thing they want to hear from a salesman is the statement. "Madam, we handle all of the important makes. Which one do your prefer?"

The next fundamental concerns having the *right kind of a sales organization.* This means having the right number of men to accomplish the job desired without having too many resulting in low morale. It also means giving thorough attention to the training of the salesmen not only from a standpoint of product presentation but especially in the fundamentals of handling customers and other basic principles of good salesmanship.

'Extras' For Salesmen

Another point . . . is the use of methods for stimulating the men to extra effort. Many smart sales managers . . . have shown that they can produce more extra volume through a half of 1% of sales properly used for

(Concluded on next page)

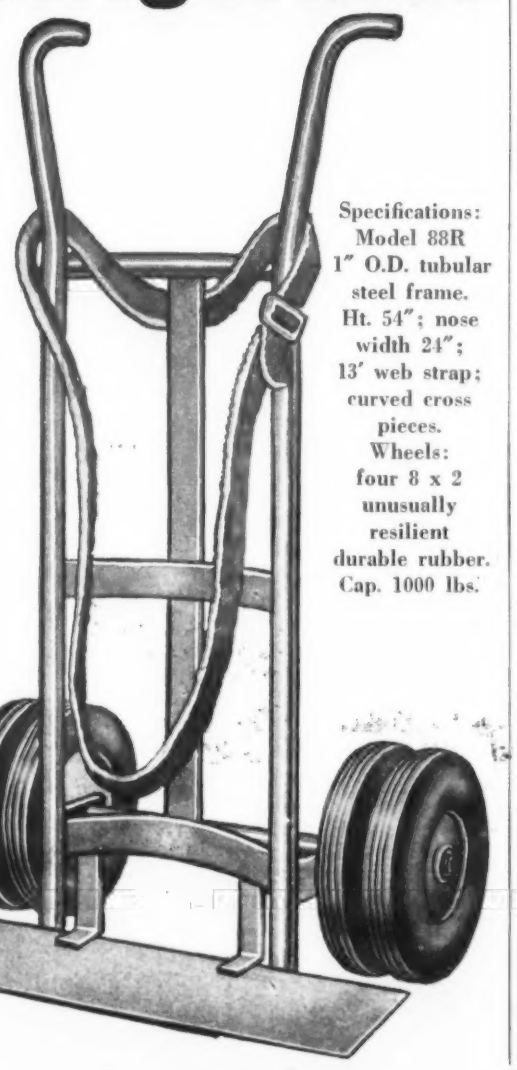
NOW! ORDER MONDAY — GET FRIDAY

HANDEES (WHO HAVE SOLD OVER 15,000 TRUCKS BY MAIL) OFFER A NEW

Dual Wheel Refrigerator & Appliance TRUCK

Also for Furniture, Crates, Boxes, Cartons

$31.95
MODEL 88R



Specifications: Model 88R 1" O.D. tubular steel frame. Ht. 54"; nose width 24"; 13' web strap; curved cross pieces. Wheels: four 8 x 2 unusually resilient durable rubber. Cap. 1000 lbs.

THIS new dual wheel truck rolls as easy as a baby buggy. The 4 big resilient rubber tires contact floor at 4 points, giving truck a firm base, making heavy objects easier to load, easier to roll, easier to handle. No strain on arms of operator because (due to the 4 large wheels) there is no tendency to side-pull, side-tip, nor will it "slew" around when some small obstacle is run into on the floor.

Try at our risk. You will find HANDEES dual wheel truck will greatly reduce the job of handling heavy appliances and bags, and cases, cartons as well. Over 10,000 HANDEES trucks have been sold by mail. Less than a dozen of them have come back on our simple guarantee, "Send back any HANDEES truck collect if it doesn't fit your needs." Order by mail with full confidence of satisfaction or your money back.

Same Truck with Single Pair 8 x 2 Wheels is Model 82R, Priced..... $26.95

HANDEES CO. Dept. AC31
Bloomington, Illinois

Wall WIRE PRODUCTS COMPANY
PLYMOUTH • MICHIGAN
Makers of
REFRIGERATOR SHELVES • STAMPINGS
FORMED AND WELDED PRODUCTS

We have open capacity for 50 ton and 100 ton press work.

Why not write us about your stamping problems?

12 Million Replacement Sales Potential In Next Four Years

(Concluded from preceding page)

sales stimulation that they could have obtained through an extra 2% for advertising.

Another major factor is the importance of obtaining additional volume by means of what we have chosen to call *"creative selling."* This means using advantageously the many avenues available to a smart department store operation for obtaining sales volume that is not brought to the store through advertising and normal store promotion devices. This includes outside follow-up of leads, an active follow-up of users, and other highgrade methods. . . .

Without resorting to canvassing, many of your better operations before the war were producing 20% to 25% of their total volume through the intelligent use of creative selling tactics. Some stores have been known to run this portion of their business up to half of their total volume. . . .

The next factor has been to make sure the department has *adequate and competitive sales-financing support.* As department stores have increased their knowledge of this business this has required less emphasis. . . .

Another point that is still present, but again of lessening importance in recent years, is to make sure *adequate service facilities* are maintaining customer goodwill . . . this is a place where money can be lost in a hurry by stores doing their own service, unless it is most capably managed.

The last factor was purposely placed at the end of this list 10 years ago because at that time it was relatively unimportant to securing a volume of business. Within the next three or four years it may become item 3 or 4 in importance. We should prepare to meet this problem before it becomes too late.

I refer to *activity in the replacement market.*

In order as clearly as possible to lay before you the importance of this subject, I would like to show you a couple of charts that will indicate the kind of a market the refrigeration industry appears to be heading into.

Table 1—Refrigerator Market

	Today	1950
Meters in Use....	29,000,000	33,000,000
Mechanical Refrigerators in Use.	22,000,000	30,000,000
Net Increase Probable (Next 4 years)		8,000,000

On this first chart (see Table 1) our refrigeration market for the next four years is shown by these figures. Today we have 29,000,000 electric meters in use. The consensus of estimates indicates that we can expect about 30,000,000 in use by the end of 1950, or a net probable increase of 8,000,000 refrigerators in American homes.

This, of course, is but a part of the possible market since we all know there is a huge demand awaiting us in the refrigerators that need to be replaced.

Looking to our total probable market (see Table 2), we see first the type of buyers we can expect, represented by 8,000,000 first-time buyers and 12,000,000 replacement buyers, or a total sales potential new and used of 20,000,000 refrigerators.

The next figures indicating the type of refrigerator we can expect to sell can only be an estimate, which, for purposes of discussion here today, we have chosen to break down between 16,000,000 new refrigerators and 4,000,000 used refrigerators. . . .

Table 2—Probable Market

TYPE OF BUYER	
First Time Buyers	8,000,000
Replacement Buyers	12,000,000
Total Sales—New & Used....	20,000,000
TYPE OF SALE	
New Refrigerators (?)	16,000,000
Used Refrigerators (?)	4,000,000
	20,000,000

We have a pretty good basis for the first two figures. . . . The 8,000,000 first-time buyers . .. is indicated by the number of homes with meters who can and probably will use mechanical refrigerators.

Considerable study over a period of years has brought fairly accurate actuarial tables on the life of a mechanical refrigerator. Some of these tables were so accurate that when applied to all-time production they checked within a few per cent of the figures given us as result of the 1940 census. Applying these tables to average market conditions indicates that we have every right to expect that there are 12,000,000 homes in America who will replace their old mechanical refrigerator during the next four years.

The important point about this discussion today and its bearing on your future operation is, "What will become of the 12,000,000 refrigerators that are now in the homes of these people . . . ?"

Let's look at another chart for a moment (see Table 3). This is almost pure conjecture but here's what it might look like . . . we believe that 4,000,000 of these replaced refrigerators may possibly be reconditioned and resold.

Table 3—Disposition of Refrigerators Now Owned By Replacement Buyers

Reconditioned & Resold	(?)	4,000,000
Kept by Owners	(?)	1,000,000
Inventory of Dealers	(?)	500,000
Balance to be Junked	(?)	6,500,000
		12,000,000

We feel that we have already seen a trend toward people keeping their old refrigerator as a second unit or as a convenient storage cabinet in the basement. This possibly might use up a million of these old units. Remember, however, that if the owner sells his old refrigerator to a neighbor, that doesn't count in this classification as it uses up a meter that might otherwise be available for a dealer sale.

Going on to the next item, four years from now dealers will unquestionaby have a sizeable inventory of used refrigerators. . . . It is not probable that 500,000 used refrigerators spread over the total United States dealer organization would be a burden.

Potential of Used Boxes

Deducting these three, we still have a balance of 6,500,000 used refrigerators to be disposed of either by the owner or by the dealer *if* these figures are a good estimate. . . . This is approximately one refrigerator to be junked for every two and one-half new ones sold.

Now what else could happen if dealers were to fix up and resell 6,000,000 of these old refrigerators instead of four? The result could only be a reduction of 2,000,000 in the new refrigerator market which would mean that we are looking ahead to four, 3,500,000 years rather than to four, 4,000,000 unit years.

What we would not like to see happen would be for dealers to take in trade and eventually have in inventory a sizeable portion of refrigerators that someday somehow are going to have to be junked. This would bring on the same financial difficulties within the dealer structure of this industry as the automobile industry went through in the early 1930's.

What's the Answer

Now let me summarize the points I would like to leave with you on this entire replacement market:

First, the day is now, or will soon be, past when you can expect to do a sizeable refrigeration volume without dealing with a replacement buyer.

Second, the more used refrigerators you fix up and resell the fewer new refrigerators you are going to be able to sell.

Third, the more you can encourage owners to keep their old refrigerator as a second unit by showing that it has more value to them in this manner than it does on the trade-in market, the fewer old refrigerators you will have to pass through your inventory.

The important thing—don't let used refrigerators pile up in your warehouses. A warehouse full . . . could wipe out a year's profit on new sales in a hurry. . . .

. . . it doesn't seem probable that manufacturers alone can answer this problem for you, but it is one that is going to require the best thinking of retailers and manufacturers together. We have studied as closely as possible the history of other consumer durable goods and here's what the situation looks like.

Comparison With Auto Field

From an appliance standpoint, radios, washing machines, and gas ranges have had a low enough economic value that $5 or $10 added to the price has made it possible for you to take in these used appliances at that value and throw them away. On the other hand, the economic value of a used automobile is of a sufficient amount that . . . dealers have been required to handle the sale of two to two and one-half used cars for every new car they moved.

It seems probable that the refrigeration industry lands somewhere between these two. . . . The proximity to either will largely depend upon the prices we are dealing with. Certainly with refrigeration prices staying in the neighborhood of $200, the economic value of a used refrigerator will be such that it cannot be handled in the manner of the used radio or washer.

On the other hand, the average life of a refrigerator with its first user is about seven years, instead of two or three as in the automobile field. As a result, it isn't probable that you will ever reach the point of handling even one trade for each sale. Perhaps eight or nine out of 10 sales will be your peak.

History of Used Cars

Let's look at this replacement situation through the eyes of an automobile man. In talking to him of our coming problem, here is what he said:

"In the normal years immediately preceding World War II, the used car had become the dominant factor in automobile retailing. One of the most important reasons for the excellent profit position of the . . . dealer was the fact that the fundamental importance of the used car end of the business had become thoroughly recognized. . . .

"For more than 10 years the used car was a 'problem'—a necessary 'evil'—and it was treated just as a problem instead of as an integral part of the business. All kinds of panaceas were tried. None of them really worked, because . . . they treated symptoms instead of causes.

"Typical of these panaceas was the 'Green Seal' plan. . . . Under this plan individual dealers in a given city agreed to have their used cars appraised by a representative of the dealer organization and then sell them at a fixed price. Variations of this idea were tried throughout the country in the late twenties and early thirties.

"Another remedy was the 'Appleby Plan.' At the January 1924 meeting of the NADA James E. Appleby declared that 'dealers should get out of the used car business.' His 'Motor Mart' system set up central used car markets to dispose of the dealer's 'problems.'

"In the thirties much of the approach to the used car 'problem' was through the 'junker' and many junking plans were tried. . . .

"But the automobile dealers finally learned that the used car was part of the business and not merely a 'problem'. . . . They began to look at their business as a whole and apply sound merchandising practices to *all* phases of it.

"Appliance dealers can save millions of dollars and endless headaches by looking at the experience of the automobile industry and profiting by the many mistakes made in the handling of the used car.

Used Boxes Will Be the Key

"Today the automobile retailer realizes that when he is again operating on a normal basis, his business is going to have to be set up on the basis of *how many used cars he can handle*—not on how many new cars he can sell. . . . He knows he will lose some money in the used car department itself but he knows that sound merchandising will keep him from losing more in that department than can readily be absorbed by the profits in the other three parts of his businss. He looks at reasonable used car loss, including junking expenses as a part of the cost of doing business.

"The real lesson to be learned from the experience of the motor industry is that the trade-in operation is a basic part of the business and that it should be treated as such and not as a sporadic ailment that can be cured by liberal doses of panaceas."

There doesn't seem to be any other solution than for department stores to face realistically the facts on this problem. If you are going to maintain your share of the total refrigeration business down the road, your operating expenses must be brought into line with the average of all other types of merchants retailing refrigerators. Only by doing this can you keep your trade-in allowance comparable to the average of your competitors and thereby obtain your per cent of this volume.

It seems quite evident that there are not too many years left in which you can expect a sufficient volume of non trade-in business to make volume operation without trade-ins possible for you. . . .

We already have a sizeable amount of experience before the war showing that a number of department stores located in highly saturated markets had successfully solved this problem. It can be done by others of you, but it can't be done by just putting it off, nor . . . by waiting for manufacturers to come up with a magic solution. They don't have any. . . .

Filtrine HIGH EFFICIENCY WATER FILTERS

Remove Taste—Odor
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Pure,
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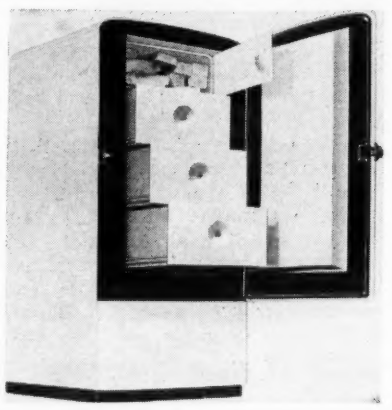
What's New

Portable's Model '80' Is Drawer Type Freezer



BLOOMINGTON, Ill.—The Refrigeration Div. of Portable Elevator Mfg. Co. here has introduced its Freez-All No. 80, which it says is the original drawer type freezer. It features three food storage drawers that open "at the touch of a finger."

These drawers, the manufacturer points out, are mounted on ball bearing rollers, and bring the food right out where you can see it and reach it Meats, vegetables, and fruits are separated for the convenience of the user.

Model 80 provides 8 cu. ft. of storage—enough for 400 lbs. of frozen foods.

Other features are a sub-zero, sharp freeze compartment with temperatures from 15° to 20° below zero; the "Coat-O'-Cold" refrigeration plate, designed to provide sub-zero sharp freeze and storage temperatures; and a hermetically sealed refrigeration unit.

New 'Elno Protector' Offers Rust Prevention

CLEVELAND — The Cleveland Heater Co. here has developed what it claims to be a rust preventer for use in domestic or commercial steel and iron hot water storage tanks. Its function is based on the electrochemical theory of corrosion, the manufacturer reports.

Known as the Elno Protector, its basic ingredient is "Elno," which is said to be a newly discovered alloy. It is offered by the manufacturer, not as a rust remover or decolorizer, but as a rust preventer.

The Elno Protector is rodlike in shape, made in 1 in. and ⅞ in. diameters to fit 1 in. and ¾ in. tank tappings, respectively.

The protector is equipped with a fitting which serves as a hot water outlet and permits connecting the protector, tank, and water line into one rigid assembly. After installation the protector is said to require no attention.

Yankee Has Electronic Device to Check Surface

HARTFORD, Conn.—A new type electrical surface gauge for checking the flatness or contour of an accurately machined surface to within .000005 in. has been developed by the Yankee Precision Products Co. here.

Known as the "Electronic Flatchek Comparator," the instrument causes lights to flash on a panel when carbide contact points on the gauge workhead touch the surface.

A meter beside the light panel indicates the percentage of lights flashed, or, in other words, the degree of flatness of the surface tested, the manufacturer says.

By determining the percentage necessary for satisfactory work, the inspector can see at a glance whether the surface tested is acceptable or not, thus combining production line speed with laboratory accurateness, the manufacturer declares.

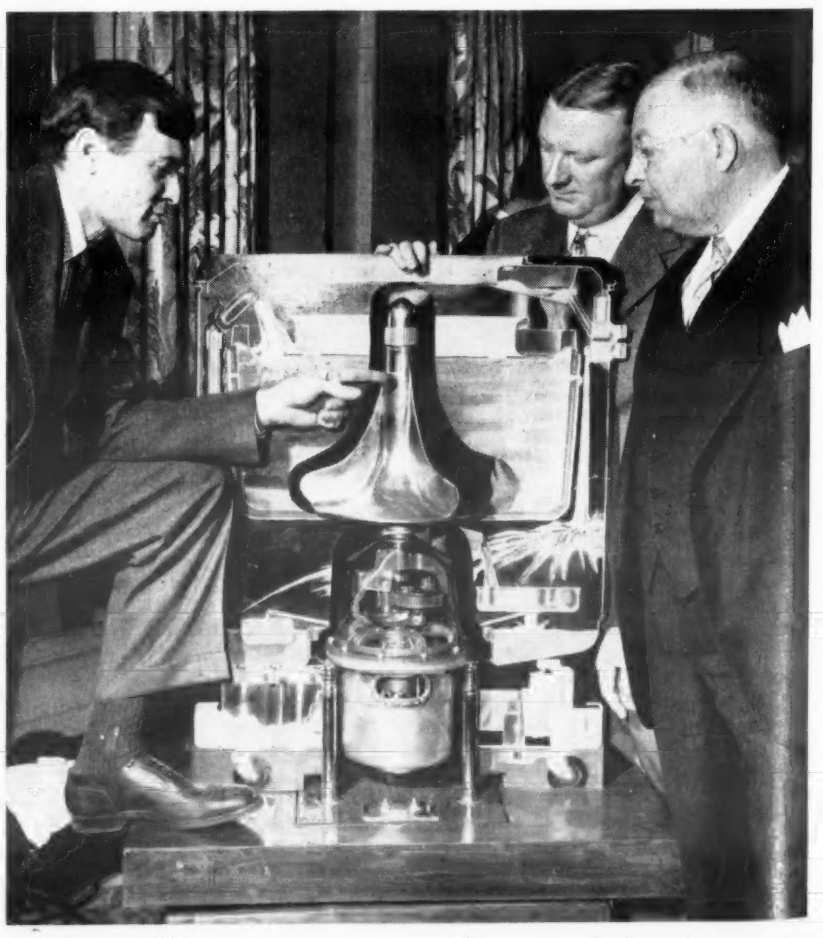
By watching the lights flashed on the panel, the inspector can determine the exact spots where the tested surface is not flat, according to the firm. When lights do not go on, that part of the surface is outside the flatness requirements, it explained.

The form of the gauge is determined by the needs of the particular job, Yankee says. For checking the surfaces of very heavy pieces, or for conveyor work, the workhead can be detached from the base of the gauge by the use of a flexible connecting cable. Thus the workhead can be brought to the work.

For checking simple flat surfaces of given area, the gauge is made standard, however.

Accuracy of the gauge has been found suitable at .00001 in. for average work, Yankee claims.

Cut-away View of G-E 'All-Automatic' Washer



C. K. Rieger, commercial engineer of G-E's home laundry division, explains features of the activator of the new G-E "All-Automatic" washer to C. E. Anderson, division manager, and C. G. Rood, vice president, R. Cooper, Jr., Inc., Chicago distributor.

SINCE 1939•••ZEROSAFE by WILSON

WILSON ZEROSAFE FARM FREEZER
Sectional Model FF-60

THE GREAT NAME IN FREEZER DESIGN

SINCE 1939 Wilson ZEROSAFE has been the greatest reach-in farm freezer in America... THE NEW WILSON ZEROSAFE IS NOW GREATER THAN EVER BEFORE . . . Not a toy, but big, ruggedly beautiful, efficient, with stamina for years of low-cost operation.

SIZES FOR EVERY NEED FROM 15 TO 120 CU. FT.

FOR FRANCHISE INFORMATION ADDRESS DEPT. II: WILSON REFRIGERATION, INC., SMYRNA, DELAWARE

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MANY MORE MODELS—NOW AVAILABLE—

Also: Stainless Steel refrigerated back bars, reach-ins and bottle coolers.

Our present production enables us to offer our famous "BEMCO" Dispensers and coolers to a few more selected dealers in unassigned territory.

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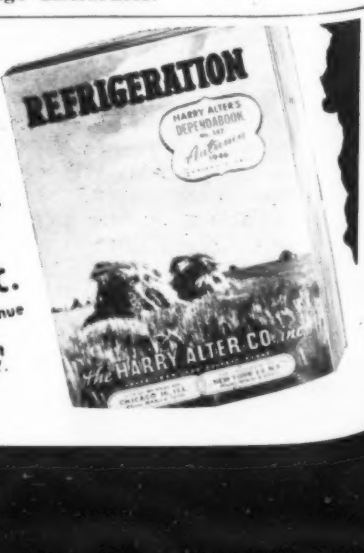


What's New (Cont.)

There's A Place for Everything, Chiquita Finds

Even bananas, all ditties notwithstanding, find a good home in the dry storage compartment of the new Norge refrigerator recently displayed at the Mid-Winter Furniture Mart at Chicago.

New Flexible Gas Hose Connects Instantly

NORTH HOLLYWOOD, Calif.—Carbo-Flex Hose Co. here has recently announced the development of a new flexible gas tubing, which the company claims can be connected or disconnected in an instant. It is made of any of several metals and lined with heat and acid resisting Neoprene.

The tubing has been approved by the Testing Laboratories of the American Gas Association, Inc., for use with natural or manufactured gas in ½ and ¾ in. sizes.

Equipped with Wiggins couplings at either or both ends, it is said to connect with a leakproof seal.

H & H Manual Guides In Selection of Fans

INDIANAPOLIS—Holcomb & Hoke Mfg. Co. here has announced publication of a new, 48-page manual to be used as a guide for dealers in the selection and installation of its ventilating fans for residential, commercial, and industrial applications.

Westinghouse Makes Portable Home Heater

EMERYVILLE, Calif. — A new lightweight portable electric home heater is now being produced and sold by the Westinghouse Electric Corp. plant here, Stuart L. Forsyth, manager of the firm's home heating section, has announced.

Made of aluminum with a satin finish and styled to blend with any decorative treatment, the new 1,250 watt heater weighs less than 5½ lbs., according to the company.

Equipped with a carrying handle, the unit is 15¼ in. high, 10⅜ in. wide, and 9⅛ in. deep.

In operation, the heater is said to first provide immediate heat by the radiation of infrared rays, then to help maintain the desired room temperature by convection. This process, it was added, utilizes the normal tendency of warm air to ascend and creates a constant air circulation throughout the heater.

Cool air enters at the bottom and flows upward over both the inner and outer surface of a vertical semi-cylindrical heating element. This element consists of nickel-chrome wire on the outside of a ceramic post.

Raytheon Introduces Larger Model Radarange

WALTHAM, Mass.—A new model "Radarange," which, it is claimed, can electronically defrost and cook a frozen meal consisting of 12 oz. of meats and vegetables in two minutes, has been introduced by the Raytheon Mfg. Co. here.

This model, known as the "Oven Chef," is designed for restaurants and other food servers, and is capable of handling larger food loads than the previous "Radarange" model.

Other cooking records claimed for the Oven Chef, records established in Raytheon's laboratory kitchen, are:

	Radarange time	Conventional cooking time
Fresh clams in shell (not frozen)	45 sec.	18 min.
Live lobsters	2 min.	18 min.
Fresh half chicken (fryer)	4 min.	1 hr.
Fresh whole chicken (fryer)	6 min.	1 hr.
Steaks & chops		
rare	30 sec.	20 min.
med.	35 sec.	30 min.
well done	40 sec.	45 min.

The Oven Chef measures 62 in. high, 21 in. wide, and 25½ in. deep. The oven itself measures 15 in. high, 13 in. wide, and 14 in. deep.

Food to be cooked is placed inside the oven. The timer on the control dial is set for the number of seconds required to cook the food and the starter button is pushed. The range automatically shuts itself off when the pre-determined time cycle is completed.

The 'Oven Chef'

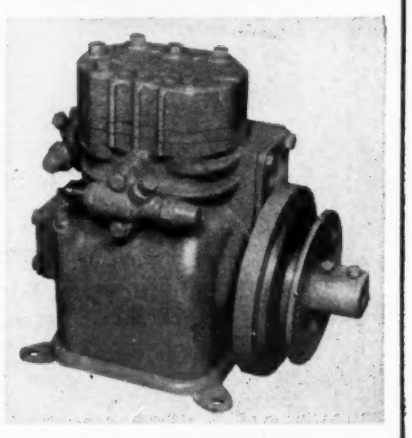
Cooking is done by molecular friction inside the food itself. A magnetron, which was used during the war to power radar sets, provides the energy for cooking.

The radio frequency energy output of the magnetron tube is directed into a horn or applicator, which beams and directly concentrates this energy into the food to be cooked. Tempered glassware used for cooking permits full penetration of the radio waves from all directions, the company says.

The magnetron oscillator is a water cooled tube which requires a water pressure of two quarts per minute. When water pressure falls below that figure, an automatic safety switch prevents operation of the unit.

The oven door must be closed before the unit will begin operation.

DOVER Model - 151
High Speed compressor



LEADING MANUFACTURERS and JOBBERS

are fast lining up with the DOVER compressor. YOU TOO can share in part of our 1947 production. Write or wire for details about this rugged—compact—dynamically balanced compressor.

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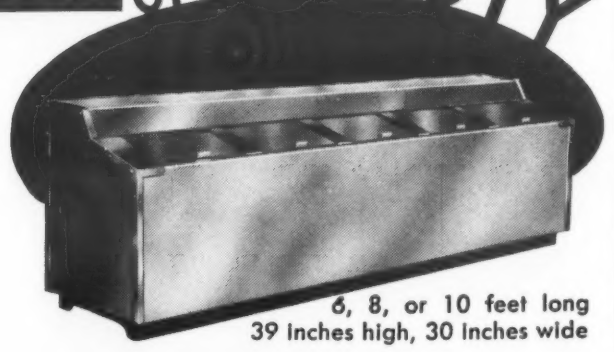
MARVEL of BEAUTY

Dry Beverage Cooler



6, 8, or 10 feet long
39 inches high, 30 inches wide

MARVEL of Efficiency

Beautiful stainless steel and polished aluminum outside with polished aluminum interior. Heavy duty fin-type coils, designed to give fast cooling and less frosting. Rugged construction, first quality materials throughout. Stainless steel lids slide away or lift out. 8-inch utility shelf. Removable dividers inside. Toe space under edges.

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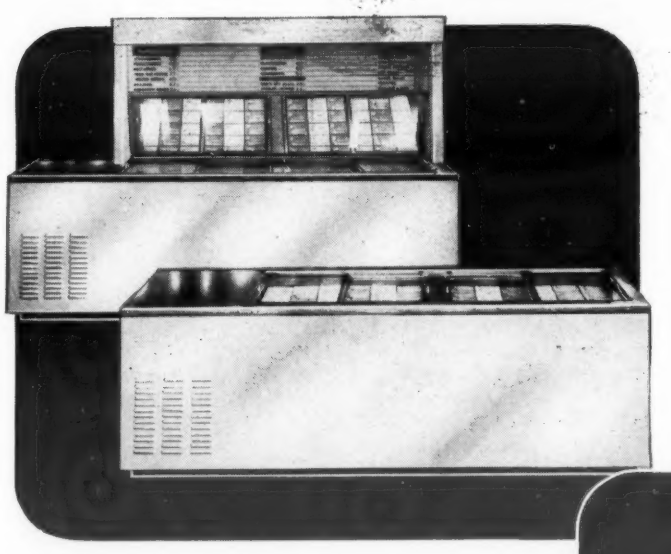
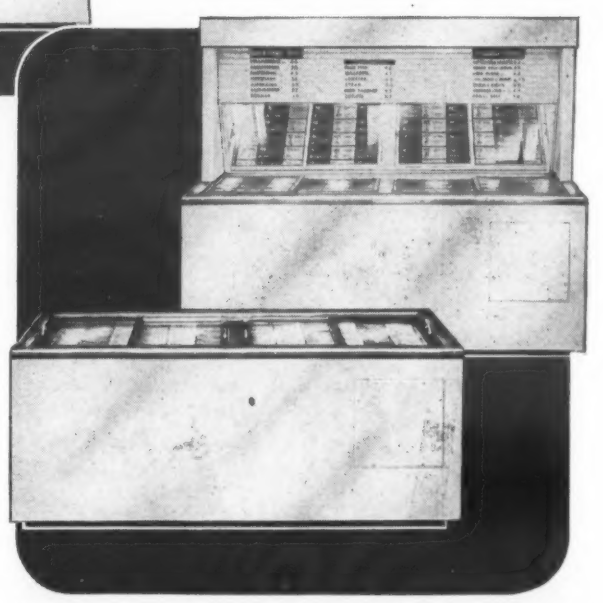


- All steel welded construction
- Hydroleened Insulation
- 4 Easy sliding glass doors
- 20 Cubic feet
- Smartly styled
- Economical to operate
- Immediate delivery

Model 520A self contained with, without superstructure



Model 520 remote cabinet, with, without superstructure

Franchises in Several Territories Still Available

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NEW NO. 47 CATALOG

READY MARCH 15TH 1947

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REFRIGERATION AIR CONDITIONING HEATING

PARTS AND SUPPLIES

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Refrigeration Problems

And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Electric Currents (6)

REACTANCE MAY ALSO IMPEDE THE FLOW OF CURRENT

Another thing may come into the picture and impede the flow of the current also; especially in the case of alternating current. When dealing with alternating current this other factor must be taken into consideration for it has very important and far-reaching effects. This factor is known as "Reactance."

Reactance may be either "inductive reactance" or "capacitive reactance" depending upon whether it is caused by "inductance" or "capacity" in the circuit.

When electric current is flowing in a wire, a field of magnetism is set up around the wire and the "lines of force" of the magnetic field follow the form of the conductor, so around a wire the lines of force are in the form of concentric circles. If the intensity of the electric current is increased, the magnetic field expands or builds up, and if the electric current drops, the magnetic field shrinks or contracts. (See Fig. 2.)

If the wire is wound into the form of a coil these magnetic lines of force combine to form a stronger, more concentrated magnetic field and we have what is known as an electric magnet or electro-magnet, as it is usually called. The magnetic field can be further concentrated by putting a piece of iron, called a "core" inside the coil. The coil and core may be in many different sizes and shapes, depending upon the use to which they are put.

A device, such as a motor, a transformer, a relay, a solenoid, a choke-coil or other electro-magnetic device that employs a coil, is said to have "inductance" which reacts against the electric current flowing in the wire in the coil, in a manner to hold back or resist the current from flowing. Especially, it resists the current flow from starting, stopping, changing direction, or increasing or decreasing in value. Since alternating current changes direction and current value many times a second, it is especially held back by the inductance of a magnetic coil.

This tendency of an electro-magnet to hold back the flow of current through it is known as Inductive Reactance and acts to reduce the current flowing through the wire of the coil. Moreover, it acts in addition to the pure resistance of the wire itself.

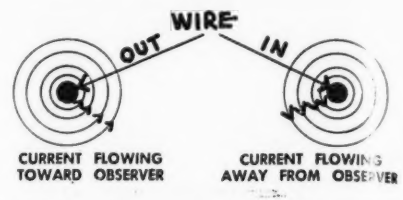

Fig. 2 shows the magnetic lines of force around a wire carrying an electric current.

INDUCTIVE REACTANCE CAUSES LAGGING CURRENT

Inductive reactance has a peculiar property; it tends to hold back the current but not the voltage. Thus the two get out of step or out of phase with one another, with the current *lagging* the voltage as shown in Fig. 3.

Fig. 3 assumes that the circuit referred to had inductance only in it, that is, that the resistance is so small as to be neglected. This is never entirely true but could be nearly true in a short circuit having in it only an induction type electric motor. In such a case, the current and voltage would be badly out of step, with the current lagging the voltage a full 90 degrees. Thus the maximum voltage would occur at the same time as minimum or zero current and vice versa.

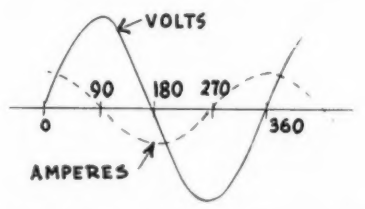

Fig. 3—Inductance in the circuit here causes the current to "lag" the voltage.

CAPACITIVE REACTANCE ALSO IMPEDES FLOW OF CURRENT

The other form of reactance that, in addition to pure resistance and inductive reactance, holds back or impedes the flow of current in a circuit or part of a circuit, is Capacitive Reactance.

When two conductors carrying electric current are near and parallel to one another there is set up between them what is known as a static field, a sort of charged condition that permits the flow of some electric current from one to the other, through the air or other non-conductor that lies between the two conductors.

An instance of this is the case of two parallel transmission wires strung on poles for several miles. This produces an "electrical condenser" with one wire as one conductive element, the other wire as the other conductive element and the air between as the insulating element, through which some current will flow. The amount of current flowing from one wire to the other depends upon the voltage of the two wires, their distance apart, and how long the line is.

Another instance of an electrical condenser is a radio aerial; the aerial itself is one conductor, the ground the other and the air between is the non-conductor.

CAPACITOR IS AN ELECTRICAL CONDENSER

A common electrical condenser is the so-called capacitor which consists of two sheets of metal foil, aluminum, lead or tin, separated by a sheet of thin paper or other insulating material. This permits of large surfaces of the foil conductors to be presented to one another and separated by a small fraction of an inch (the thickness of the paper), both being conditions that give a large "capacity" to the electrical condenser, but a low capacitive reactance.

(To Be Continued)

Superior

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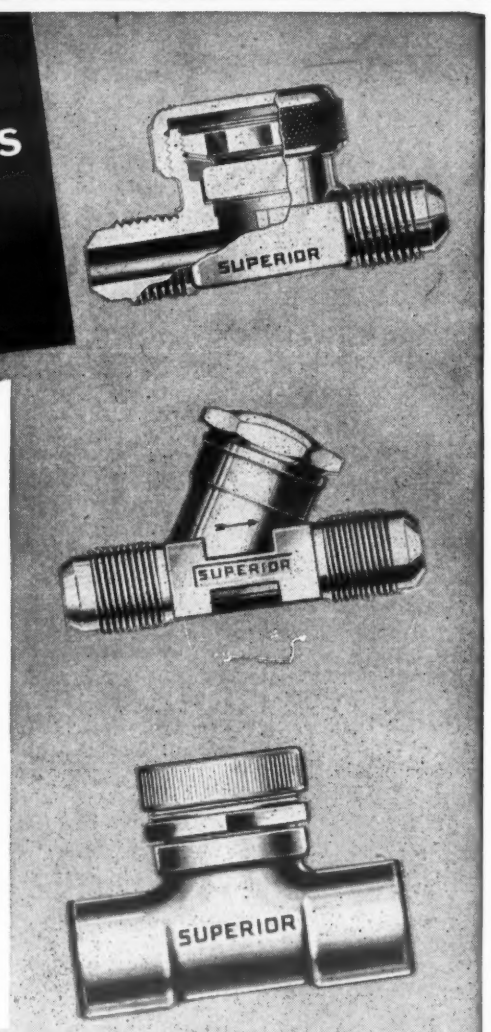

SUPERIOR CHECK VALVES—unique design, positive acting, spring-operated—cannot chatter, hum or buzz under any normal operating conditions. Pressure drop is negligible. Install one in the suction line of each low temperature circuit of all low temperature jobs—your assurance of maximum performance and trouble-free operation.

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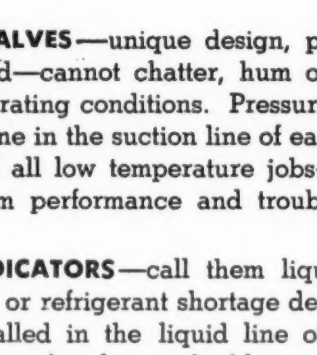
Note these exclusive features



The novel design of these SUPERIOR Check Valves permits the easy removal of all internal parts—**as a unit**—while soldering lines to valve connections, or for subsequent inspection.

Entire upper assembly of SUPERIOR Liquid Indicators—in all sweat sizes—may be removed **as a unit** to preclude damage by heat while soldering lines to body connections.

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No. 119

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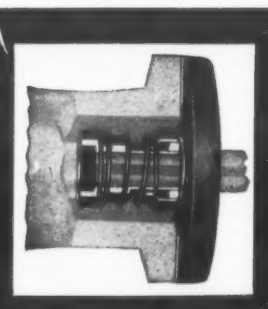

ROTARY SEAL REPLACEMENT UNITS *for* **Refrigerator Compressors**

Are simple in construction, installation, and operation.

They are built upon the principle uppermost in the minds of all engineers—

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OFF THE CHEST

'EXCLUSIVE' SALES STILL PROHIBITED BY REWA

Refrigeration Equipment Wholesalers Association
Office of the President
Syracuse, N. Y.

Editor:

I was quite impressed to read in the Dec. 23 issue of the NEWS that the "selective" dealer set-up was under fire in the U. S. Department of Justice suit on Bendix distribution.

For the past 10 years Refrigeration Equipment Wholesalers Association wholesalers have been merchandising their products on this non-exclusive basis and it is one of the by-laws of R.E.W.A. that in its dealings with its customers there shall be no exclusive or franchised dealing in order to become qualified for membership in the association.

For the last few weeks, considerable publicity has been given certain wholesalers who are planning to distribute merchandise on this exclusive or franchised basis. Any of these wholesalers who are present members of our association will certainly be called to task.

The Refrigeration Equipment Wholesalers Association has received in the past few years some criticism for having this particular clause in its by-laws but the board of directors and the majority of the membership felt that this was the best way to merchandise refrigeration products. This test case now justifies our opinions.

THEODORE I. GLOU,-President

D. N. BENEDICT CITES VIRGINIA'S LABOR ACT

Frick Co.
Waynesboro, Pa.

Editor:

While reading your timely and sound editorial "It's Always Darkest Before Dawn," in AIR CONDITIONING & REFRIGERATION NEWS of Dec. 9, it occurred to me you might like to have a copy of a Virginia Act relating to labor relations, and I am enclosing a copy herein.

Also, I am taking the liberty to enclose a copy of letter addressed to Sen. Joseph H. Ball on the same subject.

Undoubtedly now is the appointed time to work out a new set of rules or a new formula for the conduct of labor matters.

D. N. BENEDICT,
President and General Manager

(Copy)
AN ACT

To declare unlawful certain acts and conduct in preventing or attempting to prevent persons from pursuing their lawful vocations and inducing or attempting to induce persons to quit their employment or refrain from seeking employment; to make certain kinds of picketing unlawful; to prohibit picketing by certain persons; and to prescribe penalties.

Be it enacted by the General Assembly of Virginia:

1. Section 1. It shall be unlawful for any person singly or in concert with others to interfere or attempt to interfere with another in the exercise of his right to work or to enter upon the performance of any lawful vocation, by the use of force, threats of violence or intimidation, or by the use of insulting or threatening language directed toward such persons, to induce or attempt to induce him to quit his employment or refrain from seeking employment.

Section 2. It shall be unlawful for any person to engage in picketing by force or violence, or to picket alone or in concert with others in such manner as to obstruct or interfere with free ingress or egress to and from any premises, or to obstruct or interfere with free use of public streets, sidewalks, or other public ways.

Section 3. It shall be unlawful for any person who is not, or immediately prior to the time of the commencement of any strike was not, a bona fide employe of the business or industry being picketed to participate in any picketing or any picketing activity with respect to such strike or such business or industry.

Section 4. Any person violating any of the provisions of this act shall be guilty of a misdemeanor, and punished accordingly.

Section 5. If any part of this act shall be held to be invalid, the remainder thereof shall not be affected, but remain in full force and effect.

Hon. Joseph H. Ball
Washington, D. C.

Dear Senator Ball:

I wonder if among the many suggestions on future labor laws there has been sent you any comment on the results that might flow from firm and fair enforcement of the ordinary "peace laws" in this country. If no one were permitted to annoy, intimidate or coerce any other by word or act in matters of employment, as he is not permitted to do in any other matters, labor unions would be reduced to the status of other free associations which one may or may not join and support at his discretion.

It seems to me that we do not need a host of new laws but rather courageous men to enforce those we already have. For instance, no one may fear being "forced" to join the Masons, the Elks, the Methodist Church or the local Chamber of Commerce; nor may his means of securing a livelihood be jeopardized because he does or does not join and support one or more of those organizations.

It seems to me it is as simple as that. Chapter 229 (S.B. 188) Virginia Law looks in that direction. Have we seen multiplied and devastating strikes in Virginia as elsewhere?

D. NORRIS BENEDICT

MR. DEVERALL WAS THERE UNDER HIS OWN NAME

Niagara Blower Co.
Buffalo, N. Y.
Jan. 9, 1947

Editor:

In your Dec. 30 issue on page 9, you have two pictures of charters being presented to the chairmen of new sections at the A.S.R.E. meeting. The picture on the left happens to be a picture of "yours truly" and I see that you have done me the honor of confusing me with J. G. Woodruff, chairman of the Georgia Section.

However flattering it may be to me to be billed as a "son of the South," you may find that you will be called upon to make an apology to our good friend, Mr. Woodruff. These boys from "Jaw-gia" don't like to be mistaken for Yankees; at least, that's the way they tell it in the funny papers.

The only inconvenience this has caused me is that I have had to assure my friends that I was not in New York under an assumed name.

C. N. DEVERALL,
Chairman, Buffalo Section

OOPS! TWICE IN ONE ISSUE

Roche & Hull, Inc.
Baltimore, Md.

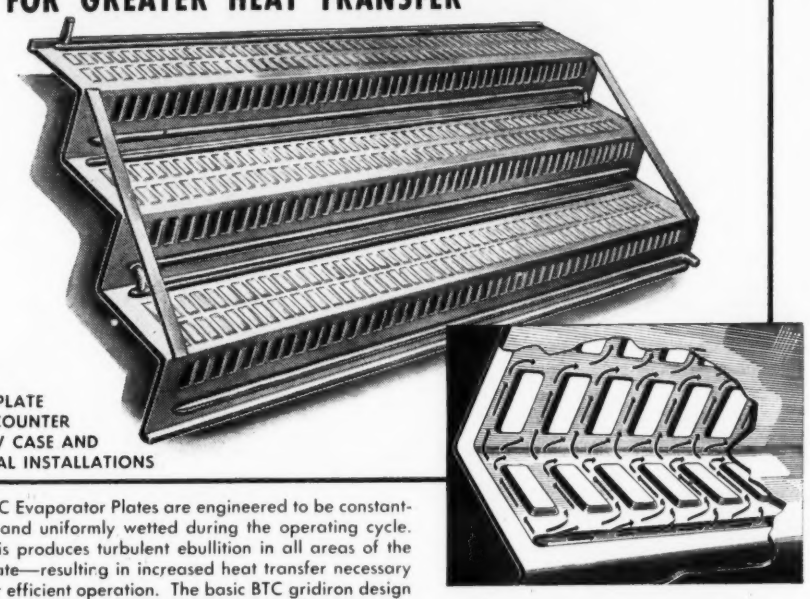
Editor:

I notice an error in the Dec. 30 issue on page 5.

Under the picture in the upper left hand corner there is a legend which indicates that Warren is representing Refrigeration Equipment Wholesalers Association. This is not correct as Mr. Farr would represent National Association of Refrigeration Contractors and not R.E.W.A.

GEORGE J. ROCHE

EXCLUSIVE- BTC EVAPORATOR PLATES
FOR GREATER HEAT TRANSFER



STEP PLATE FOR COUNTER SHOW CASE AND SPECIAL INSTALLATIONS

Cross sectional view of evaporator plate showing cross flow path of refrigerant

BTC Evaporator Plates are engineered to be constantly and uniformly wetted during the operating cycle. This produces turbulent ebullition in all areas of the plate—resulting in increased heat transfer necessary for efficient operation. The basic BTC gridiron design provides the "Cross-Flow" pattern which gives unrestricted working of the full flooded principle. BTC Evaporator Plates with the exclusive "Cross-Flow" system provide:

Peak efficiency - every square inch of the plate is flooded, assuring maximum prime surface and total efficiency of that surface.

Greater economy - the special method of distributing the refrigerant gives multiple paths for travel of heat-loaded gas and induces a low pressure drop with resultant savings in operating costs.

Variety of Applications - the basic design can be fabricated into "L", Step "U" and Cylindrical forms to meet all types of commercial and technical operations.

Specify BTC Evaporator Plates and have all the advantages of a properly engineered and manufactured evaporator plate. Write for latest bulletin.

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THE BEATTY FREEZING CABINET

WHEN THE QUALITY-WISE CUSTOMERS BUY, THEY LOOK FOR THE BEATTY FREEZING CABINET MADE OF STAINLESS STEEL.

- CONSTRUCTION—All Welded Steel Angle Frame
- TWO COMPARTMENTS—Fast Freeze and Storage
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- EXTERIOR—Beautiful Satin Finish Stainless Steel
- CAPACITY—Ten, Sixteen and Twenty-Five Cubic Feet

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"The South's Largest Refrigeration Supply Jobber"

Prevent Freezeups... Clogging..Corrosion!
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See your jobber or write
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Air Conditioners Licensed Under U. S. Patents
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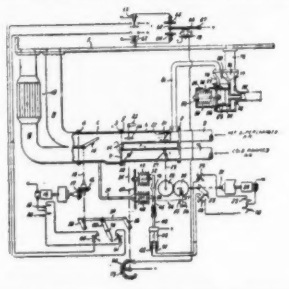
No. 2,055,528
MAYFLOWER PRODUCTS, INC
13 S. 5th St., Richmond, Ind

PATENTS

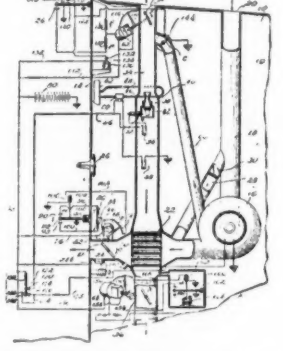
Week of Dec. 3
(Continued)

2,412,071. CABIN SUPERCHARGING MEANS HAVING AUTOMATIC PRESSURE AND TEMPERATURE CONTROL MEANS. Donald F. Warner and Earl L. Auyer, Swampscott, Mass., assignors to General Electric Co., a corporation of New York. Application July 22, 1944, Serial No. 546,717. 13 Claims. (Cl. 98—1.5.)



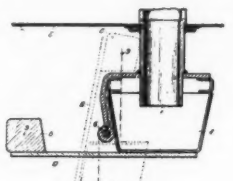
1. In a cabin superstructure system, the combination of an air mixing chamber, a first discharge conduit connecting the mixing chamber to the cabin, a second discharge conduit connecting the mixing chamber to the cabin, an air cooler in the second conduit, valve means for apportioning flow of air from the mixing chamber to said two conduits, a first supply conduit for supplying hot supercharged air to the mixing chamber, a second supply conduit for supplying rammed air to the mixing chamber, a valve in each supply conduit, means responsive to cabin pressure for adjusting said two valves, a second valve in said second supply conduit, and means responsive to cabin temperature for adjusting said second valve and said valve means.

2,412,110. AIR CONDITIONING APPARATUS FOR AIRCRAFT. Lynn A. Williams, Jr., Northfield, Ill., assignor to Stewart-Warner Corp., Chicago, Ill., a corporation of Virginia. Application Feb. 4, 1943, Serial No. 474,632. 21 Claims. (Cl. 257—3.)



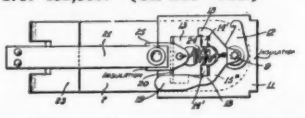
4. In an aircraft heating system, the combination of a liquid fuel burning heater, a ram for supplying combustion air to said heater, a supercharger, a conduit leading from said supercharger and connected to said ram for conveying air compressed thereby to said heater, a valve to shut off said ram, a valve to close said conduit, and means to cause opening of one of said valves when the other is closed.

2,412,118. AUTOMATIC TRAP FOR REFRIGERATOR CAR DRAINPIPES. Edwin R. Battley and George E. McCoy, Montreal, Quebec, Canada. Application Jan. 26, 1945, Serial No. 574,789. 2 Claims. (Cl. 182—8.)



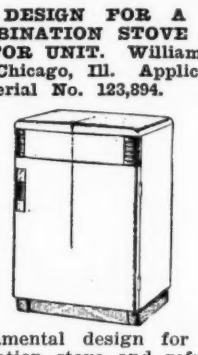
1. In a refrigerator car having a drain pipe to drain liquid out of the interior of the car; a liquid trap for the lower end of the drain pipe, said trap including a bowl hingedly supported by a fixed car part at one side of the hinge axis, and a counterweight fixedly associated with said bowl at the other side of the hinge axis so as to cause said bowl to normally surround the lower end of said pipe and provide a water seal therefor, the respective weights of the bowl and the counterweight in relation to their distances from the hinge axis being so proportioned as to maintain the bowl in said water sealing position by gravity, said bowl being movable to open position during which movement said counterweight passes to the other side of said hinge axis sufficiently to overbalance the weight of the bowl and thereby hold the bowl in open position by gravity and when in said open position a slight movement of the car will jar the counterweight sufficiently to cause the bowl to be moved by said counterweight to water sealing position.

2,412,142. THERMOSTATIC SWITCH. Benjamin E. Getchell, Plainville, Conn., assignor to The Trumbull Electric Mfg. Co., Plainville, Conn., a corporation of Connecticut. Application April 10, 1943, Serial No. 482,559. (Cl. 200—138.)



1. A thermostatic switch comprising a base, a trip contact member hinged at one end of the base, the opposite end of the base having a return bend with an offset lug cut from an intermediate part of the base and extending away from the contact end, a bimetal arm secured to said lug and connected to said trip contact member and an adjusting screw in the base adapted to engage and move the return bend and lug of the base for varying the action of the bimetal arm.

145,999. DESIGN FOR A CABINET FOR COMBINATION STOVE AND REFRIGERATOR UNIT. William L. Goodman, Jr., Chicago, Ill. Application Nov. 19, 1945, Serial No. 123,894.



The ornamental design for a cabinet for combination stove and refrigerator.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $2.50 per insertion. Limit 50 words.
RATES for all other classifications $5.00 per insertion. Limit 50 words.
ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

POSITIONS WANTED

YOUNG MAN, recently married will establish home wherever employed. Ten years experience on installation and service of commercial refrigeration and air conditioning. Some field engineering. Good educational background. Manufacturer or dealer-contractor preferred. Presently employed. A. T. LOMBARDI, 37 So. Bellevue Ave., Atlantic City, N. J.

SALES ENGINEER, age 37, married, desires position with manufacturer of refrigeration accessories and equipment as factory representative or agency basis in Ohio, Pennsylvania, West Virginia, Maryland, D. C. Several years of experience contacting jobbers, manufacturers, and dealers. BOX 2158, Air Conditioning & Refrigeration News.

FACTORY REPRESENTATIVE — proven executive and sales ability, engineering education, 18 years in refrigeration and air conditioning, experienced contacting manufacturers, jobbers, and distributors as sales and application engineer. Wants position with manufacturer as field representative working out of St. Louis, Mo. Salary or commission basis. References, BOX 2211, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

REFRIGERATION ENGINEER wanted by major manufacturer in consumer durable goods field. Background featuring knowledge of modern product design and production methods necessary. Salary commensurate with responsibilities. Submit complete resume. All replies confidential. BOX AC 1768 Equity, 113 W. 42nd St., N. Y. 18.

HIGH CALIBER salesman to represent York refrigeration Lancaster and York Counties. Man qualifying can net $10,000 a year. Hard work and experience commercial refrigeration and air conditioning necessary with established awake organization. Fine territory. Communications will be confidential. Address: CHARLES EYSTER, President, GOODLING ELECTRIC CO., York, Pa. giving qualifications.

SALES ENGINEER—$300 per month, plus commission, if you qualify. Only man with proven sales ability; complete refrigeration; air conditioning engineering, sales experience need reply. Knowledge of store-bar fixtures helpful. Must be able to figure-cost all jobs as well as sell them. REFRIGERATION SALES CO., 5638 Hohman Ave., Hammond, Ind. Sheffield-500.

SALES ENGINEER—G.E. commercial refrigeration distributor in northern New Jersey requires services of energetic application's engineer capable of taking full charge of our air conditioning and industrial refrigeration department. Must be experienced. College education preferred. State all qualifications including starting salary. BOX 2200, Air Conditioning & Refrigeration News.

OPPORTUNITY — LEADING compressor manufacturer desires sales engineer for midwest territory. College graduate in engineering preferable but not necessary. Age limit 31. Adequate salary and expenses for probably the first year, incentive arrangement thereafter. Write giving full details and appointment will be arranged. BOX 2202, Air Conditioning & Refrigeration News.

ENGINEER—YOUNG mechanical engineering graduate with some refrigeration experience preferable but not necessary, for eastern compressor manufacturer as assistant to chief engineer. Adequate compensation and unlimited opportunity for right man. Will be necessary to live in east. Write full details. BOX 2203, Air Conditioning & Refrigeration News.

SALES ENGINEER for air conditioning. Capable of taking complete charge of selling and engineering department for the South's largest commercial refrigeration distributor. Piping drafting experience necessary. Unlimited opportunity. The man selected must furnish highest references, etc. BOX 2209, Air Conditioning & Refrigeration News.

PURCHASING DIRECTOR wanted for large refrigerator manufacturer. Must be experienced. Write BOX 2210, Air Conditioning & Refrigeration News.

CHICAGO DISTRIBUTOR, foremost nationally known line of commercial and air conditioning equipment, coils, coolers, etc., requires experienced, capable salesman to contact dealers. Must have a successful background. Unusual opportunity for a permanent connection with top rate earnings. Give full details in your letter. Enclose snapshot. BOX 2215, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

TWO-WEEK DELIVERY on standard walk-in coolers and freezers. We can manufacture special coolers, also two-temperature cooler and freezer combinations. COMMERCIAL COOLER MFG. CO., 5736 12th St., Detroit 8, Mich.

CONDENSING UNITS (Genuine) ¼ and ⅓ hp. complete. Write for particulars and prices. Good quantities available. DRAFT-MASTER REFRIGERATION, INC., Designers—Manufacturers, 1703-5 W. Baltimore St., Baltimore 23, Md. GIlmor 2185—EDmondson 4542.

FOR SALE: 1,000 new flip covers and frame assemblies for freezers and ice cream cabinets. Two popular sizes. ¼ to 2 hp. new and remanufactured condensing units, also new aluminum ice cube trays. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

IMMEDIATE DELIVERY freezers open and closed glass top, stainless steel top, canopy type, 20-44 cu. ft. Florist Dairy boxes, bottle coolers, double duty display cases. Ice cream cabinets, storage boxes, wood-metal. 4-6 can milk coolers, reach-in refrigerators. Water Fountains. FRIGITEMP CORP., 931 Bergen St., Brooklyn 16, N. Y. MA 2-9093.

DRY BEVERAGE coolers, home and farm freezers, ice cream cabinets, open type frozen food cases with superstructure reach-in refrigerators. All equipment with and without units. Immediate delivery. Attractively priced, exclusive distributorships available. GENERAL REFRIGERATORS CORP., 678 Broadway, New York 12, N. Y.

EVAPORATIVE CONDENSER outdoor type—capacity 40 tons "Freon-12" or 25 tons ammonia. New 12 in. diameter by 36 in. ammonia accumulators with float valves. Reconditioned 3 x 3 York combined ammonia unit, shell and tube ammonia condensers and ceiling suspended ammonia unit coolers. MACK MACHINE CO., 3151 Emerald St., Philadelphia 34, Pa.

CONDENSING UNITS—¼ and ⅓ hp. complete with semi-sealed G.E. motors. "Freon" charged. MAGIC-TEMP COOLER CO., 311 John St., Utica, N. Y.

MAGIC-TEMP FROZEN food cabinets—newly designed open top freezers, complete with mirror, fluorescent lights; full-color food illustrations. Stainless steel top. Cabinet finished—baked white porcell. 28 cu. ft. of selling space. Removable center panel for easy service and installation. Write now—your territory may be open. MAGIC-TEMP COOLER CO., 311 John St., Utica, N. Y.

PROFITS COME easy with Magic-Temp—Steel islands and shelving for groceries and super-markets. 16 gauge high tensile steel. Designed to stand-up under heaviest stocking. Handsomely finished with gleaming white porcell. Equipped with ticket moldings. Shipped to you knocked-down. Easily assembled. MAGIC-TEMP COOLER CO., 311 John St., Utica, N. Y.

THE PAY off in dollars and cents efficiency—in Magic-Temp beverage coolers, you'll find tomorrow's refinements in modern design. Planned by experts, tested in actual use. Complete with condensing units. Two-way air flow—vapor-sealed—finger-tip efficiency—rust-proof interior—24-case capacity. MAGIC-TEMP COOLER CO., 311 John St., Utica, N. Y.

DRAFT BEER coolers. Sell Chil-Brew. Looks like direct draw box but isn't. Has instantaneous cooler, draws 31° beer, from warm 60° keg; refrigerated faucets, covered with ice. Used in Missouri 8 years. Patented. Letter or postal brings catalog. H. A. MIDDLETON, 2115 E. 31st St., Kansas City 3, Mo.

PARTS: SPARE parts for Universal type N, Carrier 7K3 compressors. Some refrigeration tools, Silica Gel, 25 lb. can. All below cost. Cooling towers, wood, w/fittings, 70 GPM, new, but fittings slightly rusted, made by Stanley. $80 each. Write for lists. MARTIN, 911 Cranston St., Cranston 9, R. I.

FOR SALE: Brunswick ammonia plant. 4½ x 4½ compressor, size C 152 Ser. #7842. Shell and tube condenser. 5 hp. 3 phase Century motor. Plant now operating in good condition. R. C. POWER, JR., P.O. Box 95, Coronado Beach, Fla.

COMPRESSORS AND PARTS rebuilding—Compressors, float valves, water valves, low pressure controls, evaporators, water cooled condensers, condensing units and many other items replaced from our large stocks, or repaired upon receipt of your defective material. Send for our catalog-prices listed. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago, Ill.

FLOAT REPLACEMENTS. For replacing defective high side floats on all household units. Regular charging connection, capillary tube setup, internal strainer and exact mounting plate. Part #2000-Westinghouse (4 hole plate), and #2010 (3 hole plate); Part #2020-Gibson; Part #2030-General Electric (DR-1 & DR-2). Part #2040-For general replacement (undrilled plate). $6.75 each. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56.

SEALED CROSLEY TERMINALS. Installed from the outside in a few minutes without opening the compressor. Corrects leaky terminals on all Crosley "F-12" units. Set of three $6.75 (Part No. 1020). Installation tool $1.65. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

FRIGIDAIRE METER-MISER Terminals. Installed from the inside. Fits compressors with bottom-mounted terminals. (Part No. 1060.) Set of three $2.85. WESTINGHOUSE TERMINALS. Installed from the inside. (Part No. 1030.) Set of three $2.85. SEALED UNIT PARTS CO. 3097 Third Ave., New York 56, N. Y.

NORGE CHECK VALVES. For open-type units. (Part No. 1040.) $2.55 each. SEALED NORGE terminal, packing washers. For repairing leaky terminals. Installed from the outside in a few minutes. (Part No. 1050.) Three sets (9 washers) $1.00. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

SEALED NORGE terminals. Complete assembly. Replaces shorted terminals. Installed from inside. (Part No. 1100.) Set of three $2.85. Sealed Crosley terminals. Installed from inside. Part No. 1070 for SO2 models. Part No. 1080 for "F-12" models. Part No. 1090 for "F-21" models. Set of three $2.85. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

MOTORS—½-hp. Leland Repulsion Induction, 1750 RPM's, 60 cycle, 110/220, ¾ in. shaft, heavy duty refrigeration motors, new and in original crates. Any amount at $56 f.o.b. Los Angeles. Immediate Delivery. WEST PICO APPLIANCE CO., 5812 West Pico Blvd., Los Angeles 35, Calif.

JARROW REFRIGERATOR rubber gasket, 15,000 ft., type no. B-5986, $46 per thousand. 12,500 ft. type no. B-419, $35 per thousand. In 12 ft. lengths, new, in original cartons, f.o.b. New York City. Immediate delivery. BOX 2207, Air Conditioning & Refrigeration News.

FOR SALE 10 Chrysler Airtemp ⅓-hp. radial condensing units complete with control and in case but less motor. $115.95 plus freight. BOX 2214, Air Conditioning & Refrigeration News.

FRANCHISES WANTED

PLUMBING LINE wanted. Established California corporation calling on the West Coast wholesale plumbing trade, wants to represent manufacturer, as agent. BOX 2208, Air Conditioning & Refrigeration News.

MANUFACTURER'S REPRESENTATIVE with well established following among refrigeration and air conditioning jobbers, contractors, manufacturers, and sales-service organizations in Metropolitan New York seeks one or two outstanding lines for intensive development in this area. We offer a complete engineering service based on over 15 years experience. BOX 2213, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

AGENTS WANTED throughout the United States and Foreign Countries to sell nationally advertised line of condensing units. State territory desired and other lines handled or present connections. Our present employes and agents know of this advertisement. Answers will be held in utmost confidence. BOX 2186, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

THE DETROIT Air Conditioning Institute is planning a course in thermodynamics and advanced air conditioning for resident and extension students. Refrigeration service engineers, estimators, layout men, and graduates of basic refrigeration or air conditioning schools. Write GEO. H. CLARK, Director, 8328 W. Vernor, Detroit 9, Mich.

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COLDSPOT UNITS repaired. 48 hour service. Six months guarantee. Open type $25. JACK ARMSTRONG, 141 Bond St., Brooklyn, N. Y. Telephone Main 4-3096.

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Questions on Service Answered by Experts

Editor's Note: Numerous questions regarding all phases of refrigeration problems were asked by service men at the national meeting of the Refrigeration Service Engineers Society. Some of these questions, and the answers supplied by the "board of experts," will be of interest to all service men.

What Temperature Is Best for Dehydration?

Q. At what temperature should refrigeration equipment be dehydrated, taking into consideration materials which may not withstand high temperatures?

A. This is open to a certain amount of debate. If there is nothing in the equipment except iron, copper, and oil, there should be no difficulty about the maximum temperature, but gaskets and motor windings (on hermetic units) will limit the temperature range. Ordinarily 225° is okay, provided there is enough time. Time is important. There must also be means of carrying the moisture away, such as a vacuum pump or perhaps simply an air stream.

Q. Is it true that some manufacturers have eliminated the use of carbon tetrachloride to prevent copper plating on methyl chloride machines?

A. That is true. One company used carbon tetrachloride to wash out units and later found very pronounced copper plating. When the use of carbon tet was dropped, copper plating was eliminated.

Use of Oil Separators On Low-Temp Systems

Q. I have always regarded an oil separator as a "must" on low temperature systems. Am I right?

A. Oil separators do seem to increase the efficiency of a system, especially on low temperature jobs. Generally speaking, oil separators are a worthwhile accessory, but they are not a cure-all.

Q. Why do some manufacturers still recommend the addition of anhydrous alcohol in "Freon" systems to prevent freeze-ups?

A. If the amount of alcohol (methyl alcohol) added is restricted to 1% or less by volume, no bad effects will result, except possibly over a long period of time. It is not a liquid dehydrant, it merely makes the solubility of water in refrigerant greater so that ice won't crystallize out. If more than 1% is used, there will be trouble, such as corrosion. Do not use alcohol in a system which has a dryer, because the alcohol will be picked up by the dryer.

Q. What is the best way to hook up two "warm" boxes to a home freezer using a Frigidaire "K type" condensing unit?

A. This is not recommended. Too great a capacity is needed to bring the temperature of the "warm" boxes down. It is more economical to have separate condensing units to handle the high temperature and low temperature boxes.

'Freon'-CO_2 Mixtures

Q. Will high pressure cause "Freon-12" and carbon dioxide used in the same system to separate out?

A. No. High pressure, that is, over 300 lbs., will have no effect on mixed "Freon-12" and carbon dioxide. The gases are physically mixed and do not lose their separate properties. They will not separate out.

Q. Is there any data available on .031 in. capillary tube for household refrigerators?

A. No specific data is available. However, it is suggested that a long tube be used and then cut down to fit the specific application. Getting the ratio between the length and the diameter of the tubing can be used as a guide. However, it must be remembered that any bend in the tube adds restriction to the tube.

Q. Do you recommend a permanent drier in the system?

A. They have been used with success. Drying material can be put in the line if its physical properties are satisfactory. That is, it should not dissolve in the liquid and travel through the system. Calcium chloride should never be left in the system. It is not satisfactory in any circumstances. A drier in the line is almost a necessity.

Sizing of Lines with High-Speed Compressors

Q. With present-day high speed compressors should the recommendations of the coil manufacturer or those of the compressor manufacturer be followed with regard to sizing and layout of suction lines, oil traps, etc.?

A. Oil returned in the form of vapor shouldn't cause any trouble, and it should be returned in this form in high speed machines. To keep slugs of oil or liquid refrigerant from coming back you must have a dry coil. Feed the refrigerant at the top of the coil and let it come out the bottom, instead of feeding at the bottom. Also, drain the suction lines to the compressor to avoid pockets for slugs. Undersized suction lines may help, for it's important to get velocity, even though there may be a pressure drop of 1 to 4 lbs.

Q. With a vertical suction line, how high should it be and what refrigerant velocity would be necessary to insure proper oil return?

A. A wild guess would be to figure on 1,500 f.p.m. velocity per inch of diameter.

Refrigeration School Formed In St. Louis By 4 War Veterans

ST. LOUIS—Four World War II veterans have taken advantage of the G.I. Bill of Rights to start up a refrigeration school here, which will operate as the St. Louis School for Electricity and Refrigeration.

Veterans who organized the school include M. M. Kahn, M. S. Green, Carl Steimnitz, and Milton Fox. They have leased a war surplus building at Ecoff and Southwest Aves., and purchased 90% of their operating equipment from the War Assets Administration.

The refrigeration and electrical school will present a 34 week course covering 850 hours of instruction, with 750 hours devoted to practical laboratory work.

The faculty of 15, chiefly ex G-I's, will include Edward R. Magnus, a refrigeration consulting engineer, and head of the refrigeration section at the Davide F. Ranken School of Mechanical Trades for many years.

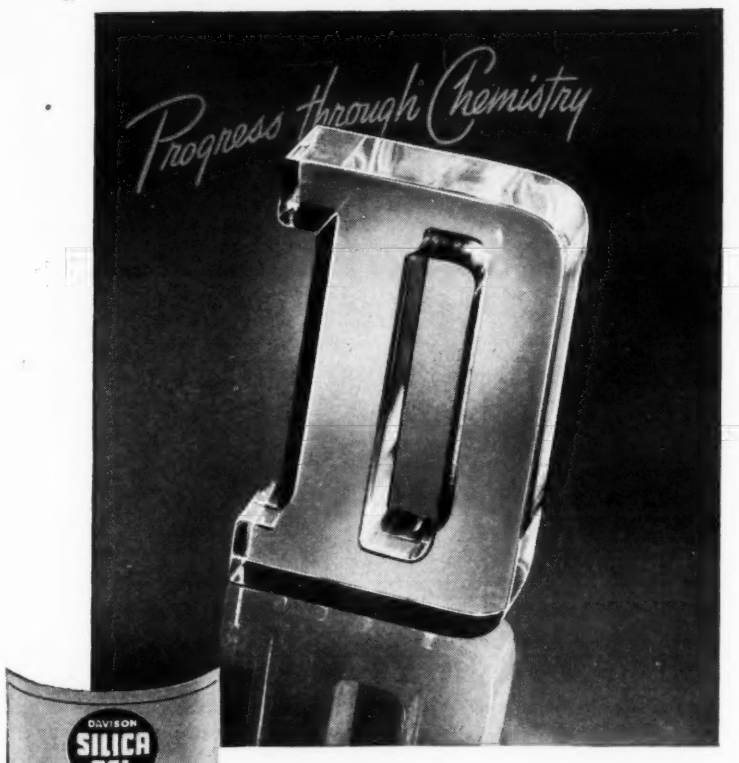
The brick building was elected as part of a steel company's war holdings, and is equipped with a cafeteria and shower room in addition to adequate classroom and laboratory space. Except for refrigerators, compressors, and refrigerants, all materials were purchased through the WAA on veteran's priority. First classes were started Jan. 20.

H. H. Watson Named To G-E Standards Post

BRIDGEPORT, Conn.—H. H. Watson has been appointed standards engineer of General Electric's Appliance & Merchandise Department, J. W. McNairy, manager of engineering and planning, has announced.

Mr. Watson joined General Electric's testing department in Schenectady in 1922. Two years later he was transferred to industrial control engineering, and came to Bridgeport in 1937 as designing engineer with the Wiring Device Division. He was made engineer of the Wiring Device and Accessory Equipment Division last year.

WHAT THE DAVISON "D" MEANS



IN THE REFRIGERATION FIELD

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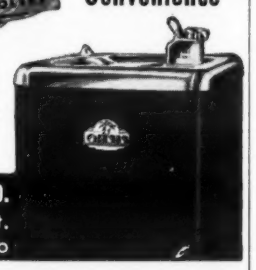

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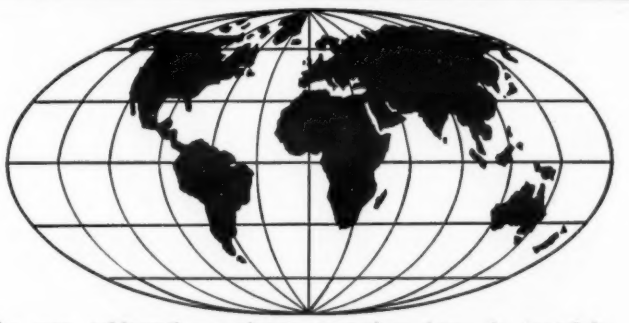

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The NIAGARA *AERO-PASS CONDENSER saves power by permitting you to operate your compressors at the lowest head pressure that will distribute your refrigerant properly. Reducing the differential between head pressure and suction pressure makes less work for your motors and cuts your demand load.

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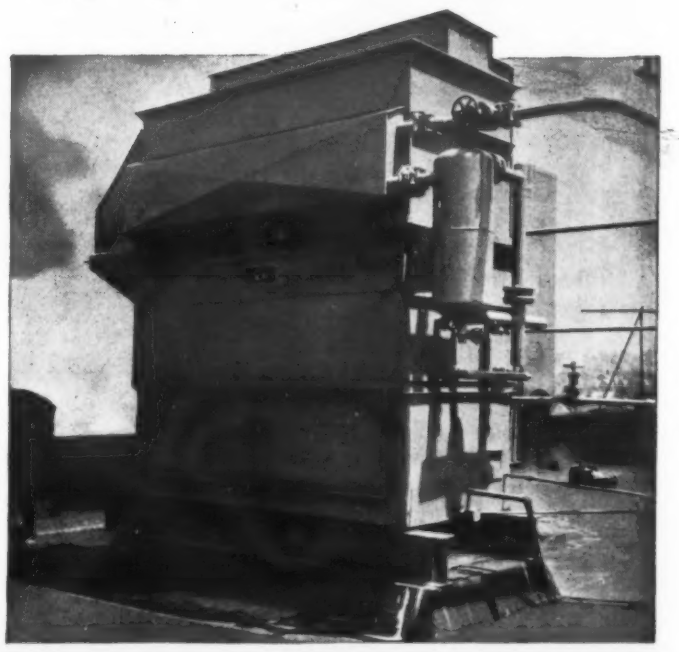

NIAGARA * AERO-PASS CONDENSER
*Trade-mark Registered for the Niagara Condenser with the patented Duo-Pass, Oilout and Balanced Wet Bulb Control.

40% Margin on Appliances, Radios Sought In Broad Program Set Up by Dealer Group

CHICAGO — A 40% functional margin and discount on all appliances and radios will be a main plank in the "program" to be presented to the electrical industry by the National Electrical Retailers Association, it was decided at a meeting of regional governors and members of the policy committee here recently.

The program calls for "an immediate halt to the trend to shorter discounts."

Other projects designed to strengthen the dealer's position, which NERA intends to take up with manufacturers and wholesalers during 1947 are:

1. Suggest to manufacturers and wholesalers that they restrict deliveries of appliances to those retail outlets who do not maintain service departments or who do not have facilities under contract for servicing all appliances.

2. That manufacturers and wholesalers cooperate with NERA to preserve the electrical retail business for electrical retailers on the premise that the "Electrical Living" program would be seriously damaged wherever appliance selling was done by retailers of other industries who do not have proper maintenance or repair facilities and who usually are interested only in securing appliance business during "lush" selling periods with little regard for industry goodwill building.

3. That manufacturers and wholesalers discourage and seek discontinuance of direct consumer selling by-wholesalers.

4. Strive for discontinuance of special discount selling to employe groups such as trade units, private or public employe groups, and further that full dealer percentage-wise margin be maintained on appliances sold to employes of electrical manufacturers at reduced prices.

5. Strive to secure a 40% functional discount on replacement parts so the retailer can service profitably, thus maintaining good reliable servicemen, keeping our service industry up to par with other industries.

6. Urge manufacturers to provide a descriptive tag for major appliances to contain complete specifications as an aid to retail salesmen in having pertinent information right at his fingertips.

7. That manufacturers and wholesalers will market their products only through regular retail outlets, and in case of sales made to contractors, new homes, or on FHA financed deals, the manufacturers and wholesales will channel these sales through regular dealers at a standard discount.

Some of the other points on the program are:

Strive for even stronger cooperation between electric companies and electrical retailers on matters pertaining to training salesmen, promoting sales of appliances, market surveys, consumer instruction on use of appliances, etc.

Investigate the value of Fair Trade Standards for electrical retail industry on a national basis.

In cooperation with other associations, strive to get government to tax co-ops just as business is taxed.

Strive to have all electrical retailers provided with offcial NERA Appliance Trade-in Guide and promote proper understanding as to the value of trade-ins being encouraged.

Due to the illness of NERA president Paul Kees, vice president Herb Names presided at the meeting. Others in attendance were:

Regional governors: N. Weinzimmer, Foresthill Appliance Co., Cleveland; Ken Stucky, Stucky Bros., Fort Wayne, Ind.; A. H. Barrett, Electric Service Co., Stamford, Conn.; and Lloyd C. Bell, Felder-Bell Co., West Palm Beach, Fla.

State chairmen and members of policy committee: John B. Duff, Modern Radio & Appliance Corp., Savannah, Ga.; and Julius Kovach, Paramount Good Housekeeping Shop, Racine, Wis.

Local chairmen and members of policy committee: Frank Ruth, The Copeland Electric Co., Alliance, Ohio; Lewis V. Morris, Morris Dept. Store, West Liberty, Iowa; E. O. Kuehn, General Radio & Supply Co., Belleville, Ill.; F. E. Morrison, Rockford Standard Furniture Co., Rockford, Ill.; and Victor P. Joerndt, Radio Electric Appliance Co., Kenosha, Wis.

Members of policy committee: W. T. Slauson, Grayson Appliance Co., Chicago; Glen Walz, Walz Appliance Co., Walkerton, Ind.; J. H. Mansure, United Appliance Service, Chicago; V. G. Brunderman and M. E.. Brunderman, Brunderman Appliances, Chicago; and N. J. Sheldon, Sheldon Radio & Appliances, Chicago.

Field man: J. Malcolm Semmes of Chicago. Managing Director: C. C. Simpson, NERA, Washington, D. C.

Gov't Estimates on Freezer Shipments

Shipments of Home and Farm Freezers, First and Second Quarters 1946

(Includes a small number of combination cooler-freezer units)

Shipments of Complete Units

Size	Total No.	Total Value (dollars)	Self-Contained Unit No.	Self-Contained Unit Value (dollars)	Remote Units No.	Remote Units Value (dollars)
First Quarter 1946						
Total	**23,161**	**5,309,451**	**21,972**	**4,931,809**	**1,189**	**377,642**
Under 6 cubic feet*	1,685	202,714	1,685	202,714	....	....
6.1 to 8 cubic feet	*14,720	*2,991,725	3,487	476,068	*46	*10,670
8.1 to 12 cubic feet			5,398	1,084,037		
12.1 to 15.9 cubic feet			5,789	1,420,950		
16.0 to 20 cubic feet	4,742	1,299,329	4,153	1,163,913	589	135,416
Over 20 cubic feet	2,014	815,683	1,460	584,127	554	231,556
Second Quarter 1946						
Total	**28,870**	**6,735,050**	**27,279**	**6,194,769**	**1,591**	**540,281**
Under 6 cubic feet*	3,640	453,114	3,640	453,114	....	....
6.1 to 8 cubic feet	*15,496	*3,172,515	4,975	761,905	*102	*24,721
8.1 to 12 cubic feet			3,382	662,470		
12.1 to 15.9 cubic feet			7,037	1,723,419		
16.0 to 20 cubic feet	6,329	1,750,119	5,927	1,657,783	402	92,336
Over 20 cubic feet	3,405	1,359,302	2,318	936,078	1,087	423,224

Purchases of Components

Size	Condensing Unit No.	Compressor Unit No.	Forced Air Evaporator No.	Enclosure Only No.	Total Purchase Value (dollars)	No. of Plants
First Quarter 1946						
Total	**22,053**	**2,479**	**27**	**120**	**1,370,168**	**93**
Under 6 cubic feet*	2,145	35	....	....	106,337	17
6.1 to 8 cubic feet	2,745	957	....	....	140,523	10
8.1 to 12 cubic feet	4,743	449	....	8	255,047	28
12.1 to 15.9 cubic feet	5,882	17	27	31	375,101	35
16.0 to 20 cubic feet	4,188	752	....	81	300,013	48
Over 20 cubic feet	2,350	269	....	....	193,147	27
Second Quarter 1946						
Total	**25,686**	**1,844**	....	**38**	**1,481,704**	**95**
Under 6 cubic feet*	3,616	35	....	....	144,254	19
6.1 to 8 cubic feet	4,029	1,110	....	....	224,519	9
8.1 to 12 cubic feet	3,625	132	....	1	180,612	28
12.1 to 15.9 cubic feet	6,125	203	....	3	363,679	40
16.0 to 20 cubic feet	5,778	120	....	34	358,746	45
Over 20 cubic feet	2,513	244	....	....	209,894	28

*Combined to avoid disclosure of operations of individual companies.

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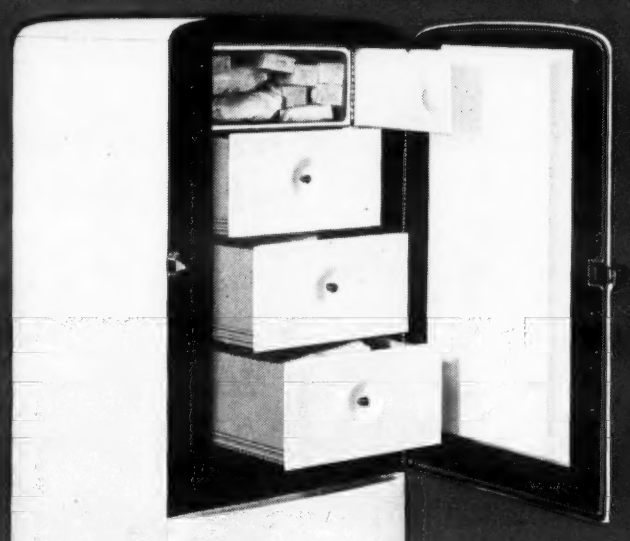
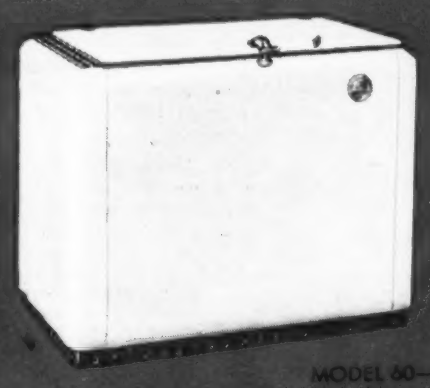
★ Colorful consumer sales aids
★ Competitive price ranges
★ Liberal dealer discounts
★ Products of ultra-modern design
★ Factory guaranteed products
★ Freez-All—by a pioneer in the refrigeration industry



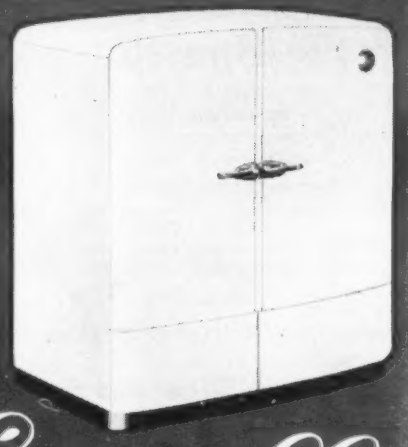
MODEL 80—The design that "set the pace" for the industry. Spacious yet space saving. 8 cu. ft. capacity.

FREEZ-ALL SPECIFICATIONS

Model	Cu. Ft. Capacity	Outside Dimensions Ht.	Width	Depth	No. Drawers AND FREEZING COMPARTMENTS	Drawer Dimensions Ht.	Width	Depth	Insulation Side	Bottom	Top	Condensing Unit Hermetically Sealed	Approx. Crated Weight Lbs.
80	8	63"	29"	34"	4	9½"	17"	23"	5"	6"	3"	¼ hp	575
160	16	63"	60"	29"	8	10"	17¼"	18½"	5"	6"	3"	¼ hp	1075
60	6	Ht. 36"	Length 47"	Width 27"	Chest Type	Interior Dimensions 26⅝" x 32½" x 17"			5"	6"	2½"	⅛ hp	375



MODEL 160—A full 16 cu. ft. of Useable, Easily Accessible food storage and freezing space at your finger-tips.



MODEL 60—6 cu. ft. capacity. The quality home food freezer for the smaller family.

Products of

Freez-all

THE ORIGINAL CHEST TYPE FREEZER

REFRIGERATION DIVISION DEPT. F-11 PORTABLE ELEVATOR MFG. CO., Bloomington, Illinois